DVD Player

DVP3320(K)

Service

Service

Service

DVP3320/55
DVP3320K(X)/78

Service Manual

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**CLASS 1
LASER PRODUCT**

Published by FK-0924 BU AVM Printed in The Netherlands Subject to modification

GB 3141 785 33872

Version 1.2

PHILIPS

Specification for DVP3320/55

Note

- Specification and design are subject to change without notice.

Accessories supplied

- Remote control and batteries
- Audio/video cables
- Power cable

Playback media

- DVD-Video, Video CD/SVCD, Audio CD, CD-R/CD-RW, DVD+R/+RW, DVD-R/-RW, Picture CD, MP3-CD, WMA-CD, USB flash drive

USB

- Compatibility: USB
- Class support: UMS (USB Mass Storage Class)

TV standard

- Number of lines:
  - 625 (PAL/50Hz); 525 (NTSC/60Hz)
- Playback: Multi-standard (PAL/NTSC)

Video performance

- Video DAC: 14 bits, 108 MHz
- Y Pb Pr: 0.7 Vpp ~ 75 ohm
- Video output: 1 Vpp ~ 75 ohm

Video format

- Digital compression:
  - MPEG 2: DVD/SVCD
  - MPEG 1: VCD
- Horizontal resolution:
  - DVD: 720 pixels (50 Hz); 720 pixels (60 Hz)
  - VCD: 352 pixels (50 Hz); 352 pixels (60 Hz)
- Vertical resolution:

- DVD: 576 pixels (50 Hz); 480 pixels (60 Hz)
- VCD: 288 lines (50 Hz); 240 lines (60 Hz)

Audio performance

- DA converter: 24 bits, 192 kHz
- Frequency response:
  - DVD: 4 Hz - 22 kHz (48 kHz); 4 Hz - 44 kHz (96 kHz)
  - SVCD: 4 Hz - 20 kHz (44.1 kHz); 4 Hz - 22 kHz (48 kHz)
  - CD/VCD: 4 Hz - 20 kHz (44.1 kHz)
- Signal-Noise (1 kHz): > 90 dB (A-weighted)
- Dynamic range (1 kHz): > 80 dB (A-weighted)
- Crosstalk (1 kHz): > 90 dB
- Distortion/noise (1 kHz): > 65 dB
- MPEG MP3: MPEG Audio L3

Audio format

- Digital:
  - MPEG/AC-3/PCM: Compressed digital (16, 20, 24 bits fs, 44.1, 48, 96 kHz)
  - MP3 (ISO 9660): 96, 112, 128, 256 kbps & variable bit rate fs, 32, 44.1, 48 kHz
- Analog sound stereo
- Dolby surround compatible downmix from Dolby Digital multi-channel sound

Connections

- Y Pb Pr output: Cinch 3x
- Video output: Cinch (yellow)
- Audio output (L+R): Cinch (white/red)
- Digital output:
  - 1 coaxial: IEC60958 for CDDA/LPCM; IEC61937 for MPEG 1/2, Dolby Digital

Main unit

- Dimensions (w x h x d): 360 x 37 x 209 (mm)
- Net Weight: approximately 1.3 kg

Power

- Power supply rating: 110 V - 240 V; 50/60 Hz
- Power consumption: < 10 W
- Power consumption in standby mode: < 1 W

Laser specification

- Type: Semiconductor laser InGaAlP (DVD), AlGaAs (CD)
- Wave length: 655 nm (DVD), 790 nm (CD)
- Output Power: 10 mW (DVD), 5 mW (VCD/CD)
- Beam divergence: 60 degrees

Specification for DVP3320(X)/78

Note

- Specification and design are subject to change without notice.

Accessories supplied

- Remote control and batteries
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- Power cable

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- DVD-Video, Video CD/SVCD, Audio CD, CD-R/CD-RW, DVD+R/+RW, DVD-R/-RW, Picture CD, MP3-CD, WMA-CD, USB flash drive

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- Output Power: 10 mW (DVD), 5 mW (VCD/CD)
- Beam divergence: 60 degrees

Safety instruction, Warning & Notes

Safety instruction

1. General safety

Safety regulations require that during a repair:

. Connect the unit to the mains via an isolation transformer.

. Replace safety components indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

. Route the wires/cables correctly, and fix them with the mounted cable clamps.

. Check the insulation of the mains lead for external damage.

. Check the electrical DC resistance between the mains plug and the secondary side:

1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
2) Set the mains switch the "on" position (keep the mains cord unplug).
3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
4) Repair or correct unit when the resistance measurement is less than 1MΩ.
5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2.Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

Type : Semiconductor laser GaAlAs

Wavelength : 650nm (DVD)

: 780nm (VCD/CD)

Output power : 7mW (DVD)

: 10mW (DVD /CD)

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warning

1.General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handing during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply , including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is “off”!). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A “lighting stroke” and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is “on”.

2. Laser

. The use of optical instruments with this product, will increase eye hazard.

. Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

. Repair handing should take place as much as possible with a disc loaded inside the player.

. Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Notes

Lead-Free requirement for service

INDENTIFICATION:

Regardless of special logo (not always indicated)

One must treat all sets from 1.1.2005 onwards, according next rules.

Important note: In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed
  solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the
  solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.
  Do not re-use BGAs at all.
- For sets produced before 1.1.2005, containing leaded soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website:
  www.atyourservice.ce.Philips.com

You find more information to:

BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

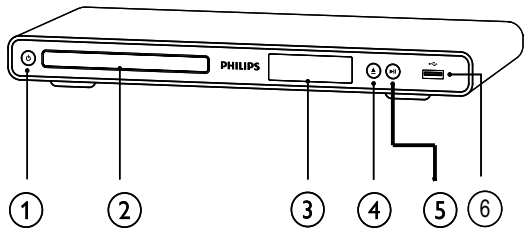
You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

DVP3320/55

Product overview

Main unit



① ⏻ (Standby-On)
- Turns on the DVD player or switches to standby mode.

② Disc compartment

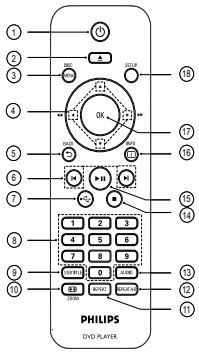
③ Display panel

④ ▲ (Open/Close)
- Opens or closes the disc compartment.

⑤ ▶II (Play/Pause)
- Starts, pauses or resumes disc play.

⑥ •⇢ (USB) jack
- Connect a USB flash drive.

Remote control



① ⏻ (Standby-On)
- Turns on the DVD player or switches to standby mode.

② ▲ (Open/Close)
- Opens or closes the disc compartment.

③ DISC MENU
- Accesses or exits the disc menu.
- Switches to disc mode.
- For VCD and SVCD, turns PBC (playback control) on or off in PBC mode.

④ ▲▼◀▶ (Navigation buttons)
- Navigates through the menus.
- Searches fast-forward (right) or fast-backward (left). Press repeatedly to change the search speed.
- Searches slow-forward (up) or slow-backward (down). Press repeatedly to change the search speed.

⑤ ⮌ BACK
- Returns to the previous menu.
- For DVD, navigates to title menu.
- For VCD version 2.0 or SVCD with PBC turned on, returns to the menu.

⑥ ⏮ / ⏭ (Previous/Next)
- Skips to the previous or next title, chapter, or track.
- Press and hold for fast-backward or fast-forward search.

⑦ •⇢ (USB)
- Switches to USB mode and displays the content.

⑧ Numeric buttons
- Selects an item to play.

⑨ SUBTITLE
- Selects the subtitle language on a disc.

⑩ ZOOM
- Fits the picture format to the TV screen.
- Zooms in or out of the picture.

⑪ REPEAT
- Toggles between various repeat modes.

⑫ REPEAT A-B

- Marks the section for repeat play, or turns off repeat mode.

⑬ AUDIO
- Selects an audio language or channel on a disc.

⑭ ■ (Stop)
- Stops disc play.

⑮ ▶❚❚ (Play/Pause)
- Starts, pauses or resumes disc play.

⑯ INFO
- For discs, displays information about the current status or the disc.
- For slideshows, displays a thumbnail view of photo files.

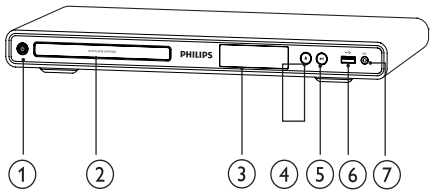
⑰ OK
- Confirms an entry or selection.

⑱ SETUP
- Accesses or exits the setup menu.

DVP3320K(X)/78:

Product overview

Main unit



① ⏻ (Standby-On)
- Turns on the DVD player or switches to standby mode.

② Disc compartment

③ Display panel

④ ⏏ (Open/Close)
- Opens or closes the disc compartment.

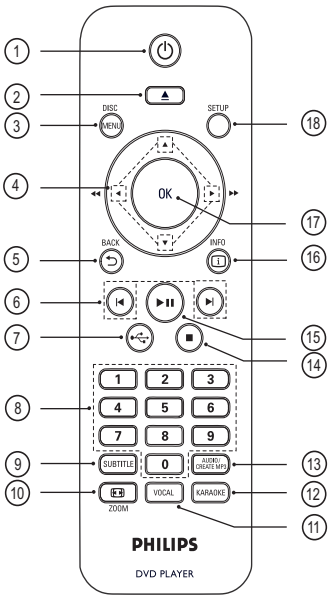
⑤ ▶II (Play/Pause)
- Starts, pauses or resumes disc play.

⑥ •⇠ (USB) jack
- Connect a USB flash drive.

⑦ MIC
- Audio input from a microphone.

DVP3320K(X)/78

Remote control



① ⏻ (Standby-On)
- Turns on the DVD player or switches to standby mode.

② ⏏ (Open/Close)
- Opens or closes the disc compartment.

③ DISC MENU
- Accesses or exits the disc menu.
- Switches to disc mode.
- For VCD and SVCD, turns PBC (playback control) on or off in PBC mode.

④ ▲▼◀▶ (Navigation buttons)
- Navigates through the menus.
- Searches fast-forward (right) or fast-backward (left). Press repeatedly to change the search speed.
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⑤ ⮌ BACK
- Returns to the previous menu.
- For DVD, navigates to title menu.
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⑥ ⏮/⏭ (Previous/Next)
- Skips to the previous or next title, chapter, or track.
- Press and hold for fast-backward or fast-forward search.

⑦ •⇢ (USB)
- Switches to USB mode and displays the content.

⑧ Numeric buttons
- Selects an item to play.

⑨ SUBTITLE
- Selects the subtitle language on a disc.

⑩ ZOOM
- Fits the picture format to the TV screen.
- Zooms in or out of the picture.

⑪ VOCAL
- Change the audio channel of a karaoke disc.

⑫ KARAOKE
- Access or exit the karaoke menu.

⑬ AUDIO/CREATE MP3
- Selects an audio language or channel on a disc.
- Access the menu to create MP3.

⑭ ■ (Stop)
- Stops disc play.

⑮ ▶❚❚ (Play/Pause)
- Starts, pauses or resumes disc play.

⑯ INFO
- For discs, displays information about the current status or the disc.
- For slideshows, displays a thumbnail view of photo files.

⑰ OK
- Confirms an entry or selection.

⑱ SETUP
- Accesses or exits the setup menu.

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.
Step1: Remove 5 screws around the Top Cover, and then remove the Top Cover (Figure 1).

Figure 1

Step2: If it is necessary to dismantle Loader or Front Panel, the Front door should be removed first. (Figure 2)
Note: Make sure to operate gently otherwise the guider would be damaged.

Please kindly note that dismantle the front door assembly carefully to avoid damage tray and the front door.

Figure 2

Mechanical and Dismantling Instructions

Dismantling Instruction Detailed information please refer to the model set.

Step3: If the tray can't open in normal way, you can make it through the instruction as below (Figure 3).
Note: Make sure to operate gently otherwise the guider would be damaged.

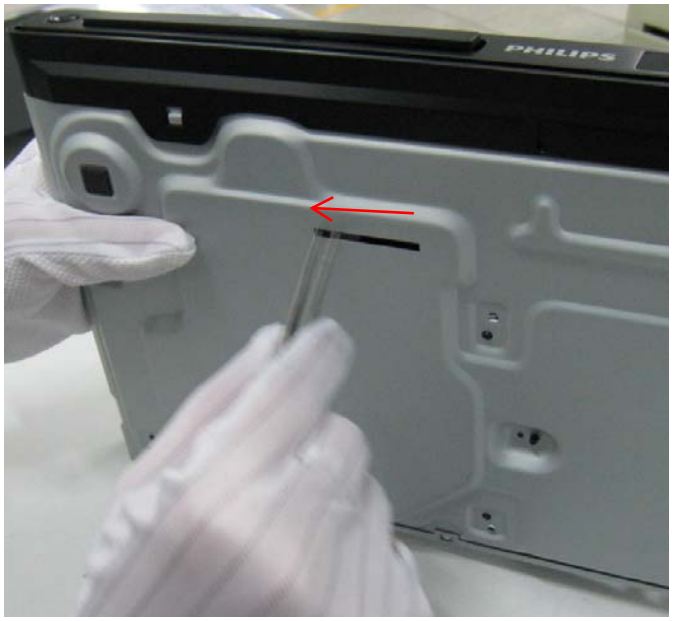


Figure 3

Step4: Dismantling Front Panel, disconnect the connectors (XP1), need release 4 snaps of Front Panel and 2 snaps of bottom cabinet , then gently pull the Panel out from the set. (Figure 4 - Figure 6)

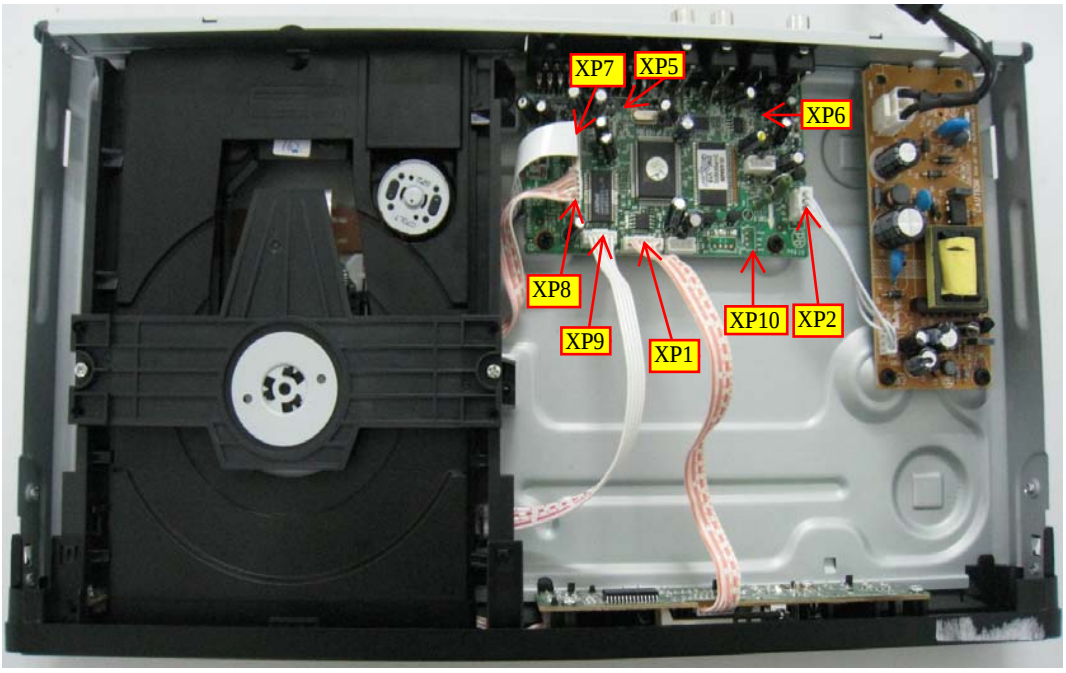


Figure 4

Mechanical and Dismantling Instructions

Dismantling Instruction Detailed information please refer to the model set.

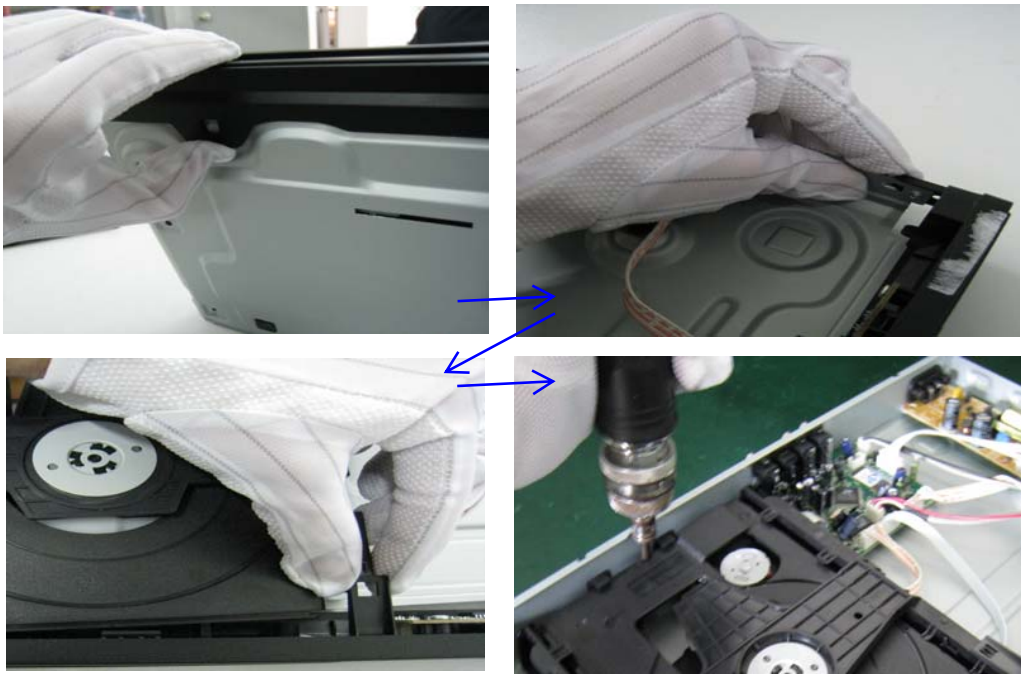


Figure 5

Step5: Dismantling Loader, disconnect the 3 connectors (XP7, XP8, XP9) aiming in the below figure, and remove 1 screw that connects the loader and the bottom cabinet. (Figure 5 & 6)

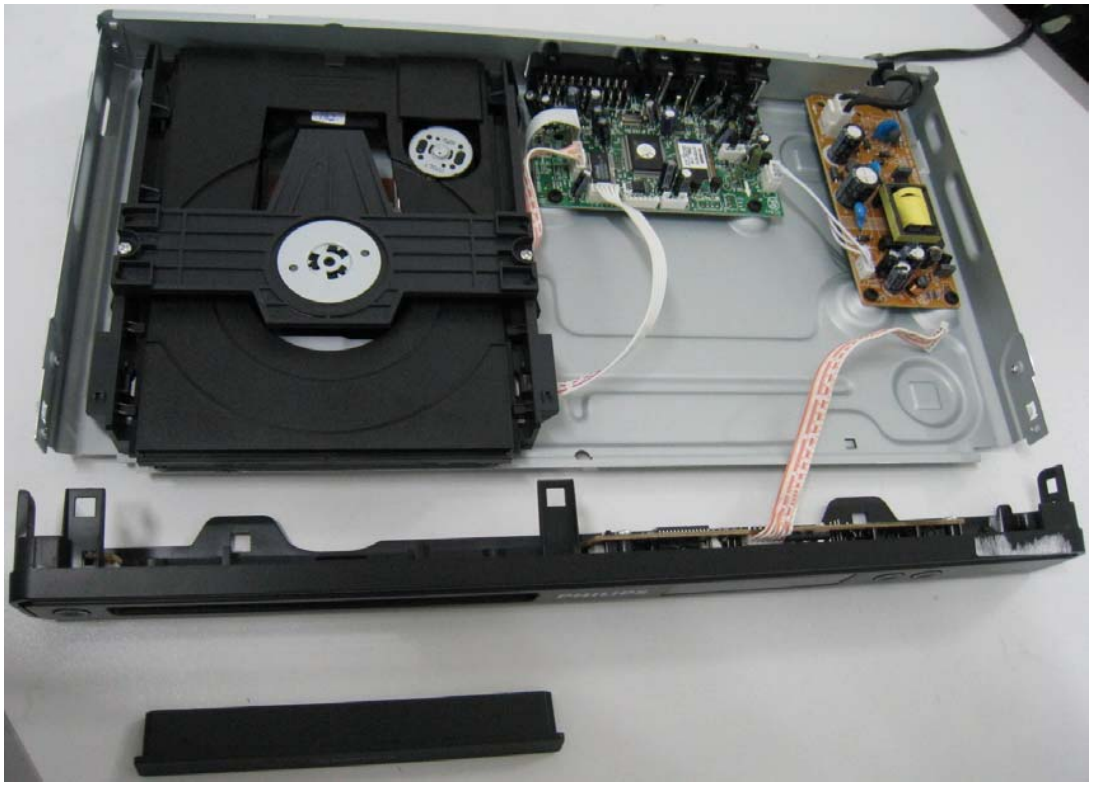


Figure 6

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step6: Dismantling Main Board, first disconnect the connector (XP2), and then remove 4 screws. (Figure 7)

Step7: Remove the 4 screws on Power Board to dismantle the Power Board. (Figure 7)

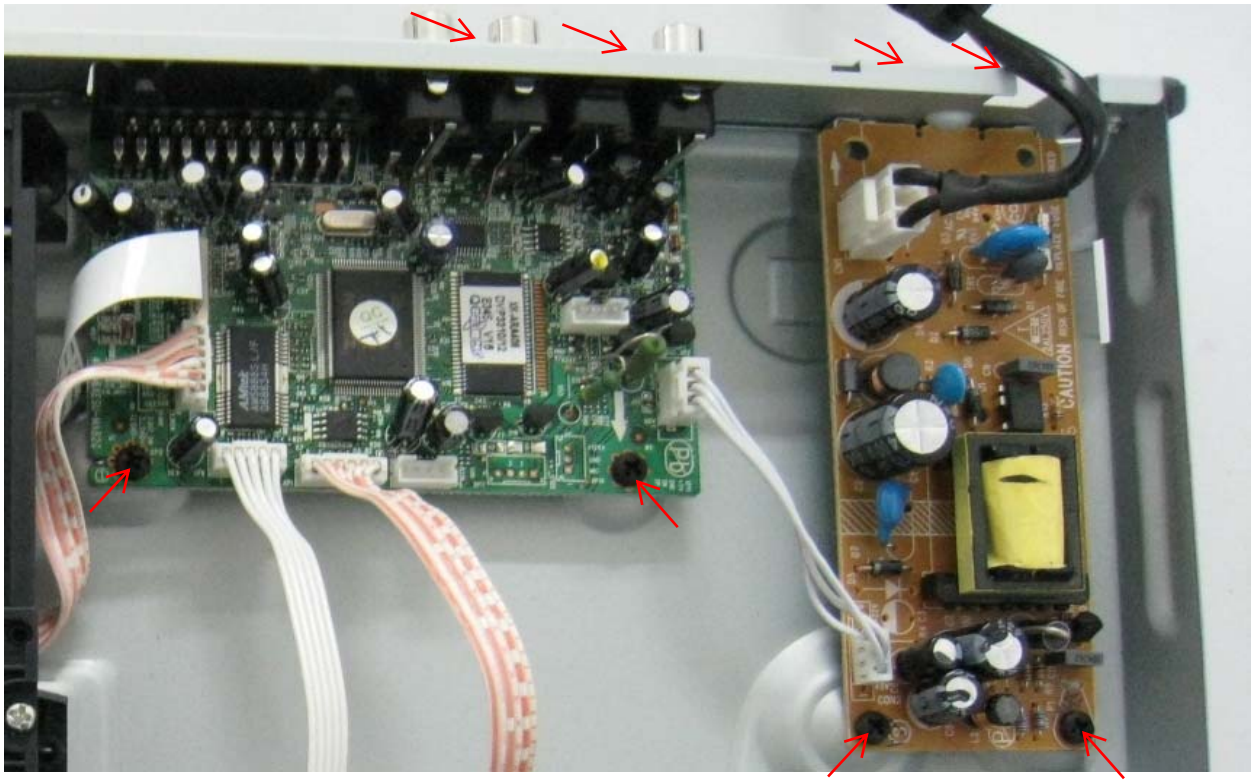


Figure 7

Software upgrade

How to upgrade the software

1) Burn the data onto a blank CD-R or RW disc.

A. Procedure for software upgrade:

1) Power on the set and insert the prepared Upgrade CDR.
2) The set will starts reading disc & response with the following display TV screen:

   Loading

   Firmware Upgrade Erase and program.

   OK Cancel

   Select OK to start upgrade.
3) Press <OK> button to confirm, then screen will display :

   Firmware Upgrade Programming, Please Wait...

   Do not Switch the Player Off !
4) The upgraded disc will automatically out when files coping complete, then take out the disc.
5) About 1 minute later, the tray will automatically close when upgrading complete.

B. Read out the Firmware version to confirm the upgrading

1) Power on the set and Open the tray door.
2) Press <9><6><6>button to check the software information.

   The software version and other information are display on the TV screen as follows:

   BE Version: DVP33XX_XX.XX

   FE Version: XXXX.XXXXXX

   DSP Version: DSP.XX

   Region Code: X

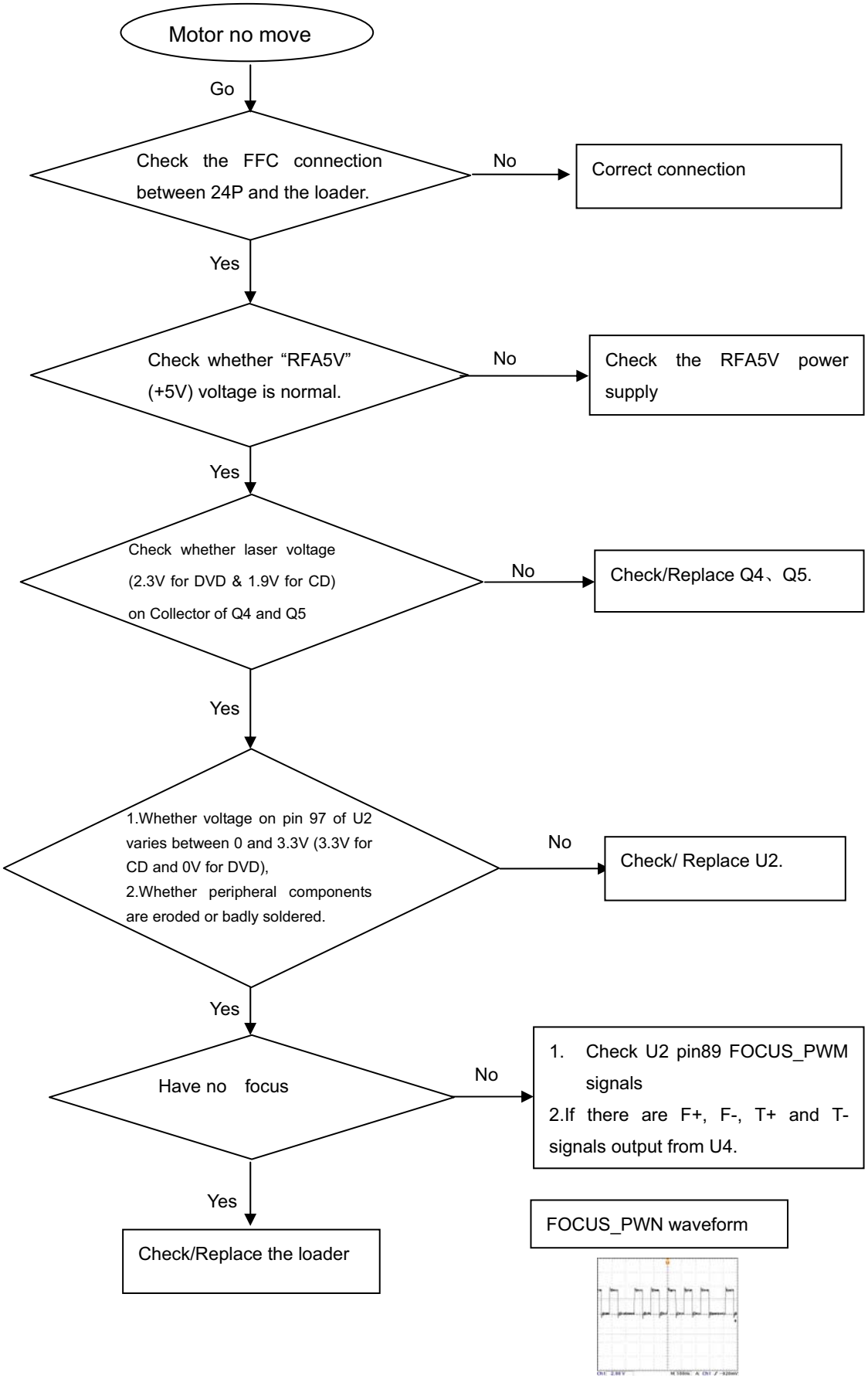
Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

Region Code Change

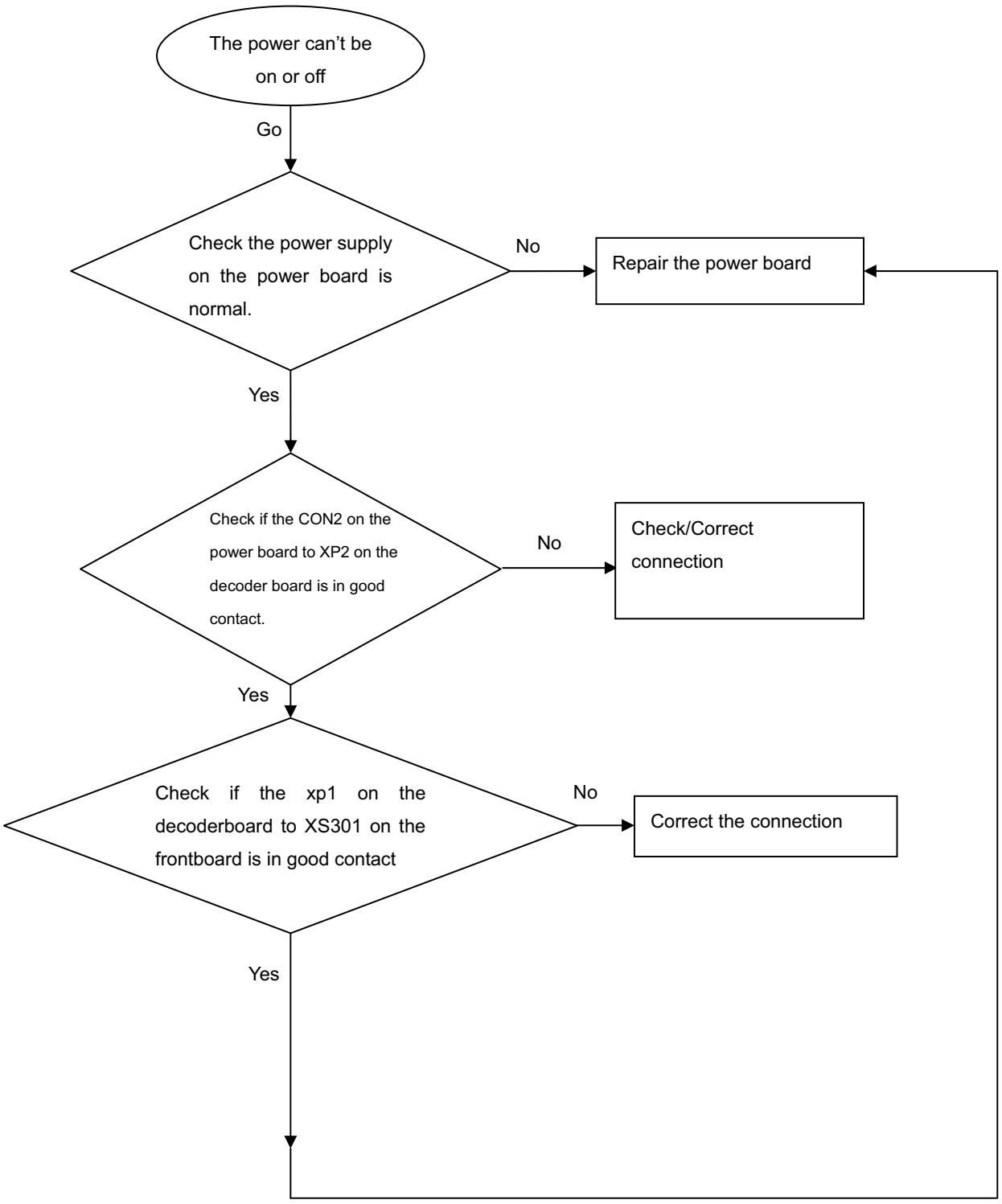
1) Power on the set and open the tray door;
2) Press "9" "8" "7" "9" and press the region code number (0-6) on the remote control.

Notes:restart after above steps.

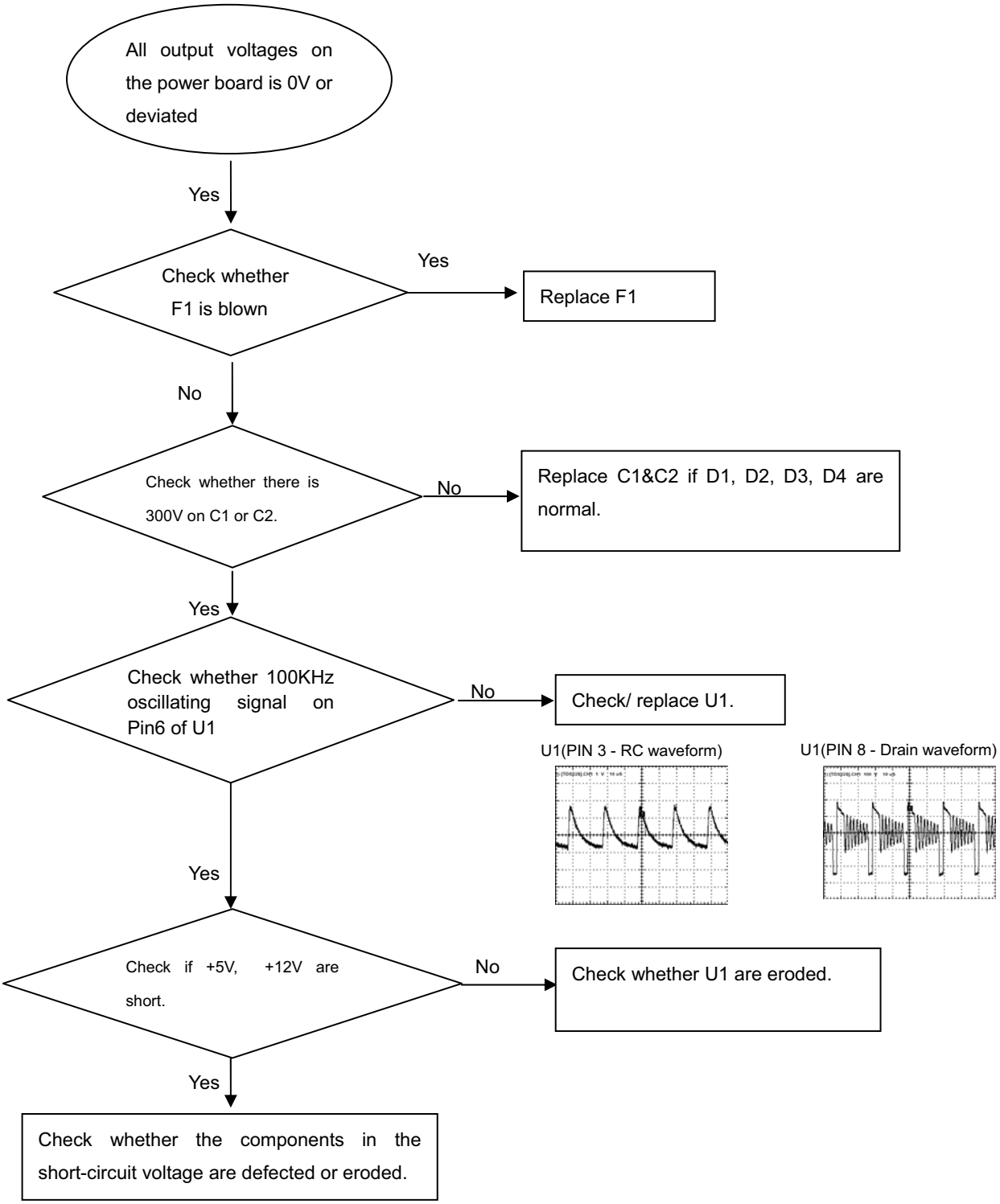
Spindle motor does not move


Motor no move
Go
Check the FFC connection between 24P and the loader.
No
Correct connection
Yes
Check whether “RFA5V” (+5V) voltage is normal.
No
Check the RFA5V power supply
Yes
Check whether laser voltage (2.3V for DVD & 1.9V for CD) on Collector of Q4 and Q5
No
Check/Replace Q4、Q5.
Yes
1.Whether voltage on pin 97 of U2 varies between 0 and 3.3V (3.3V for CD and 0V for DVD),
2.Whether peripheral components are eroded or badly soldered.
No
Check/ Replace U2.
Yes
Have no focus
No
1. Check U2 pin89 FOCUS_PWM signals
2.If there are F+, F-, T+ and T- signals output from U4.
Yes
Check/Replace the loader
FOCUS_PWN waveform

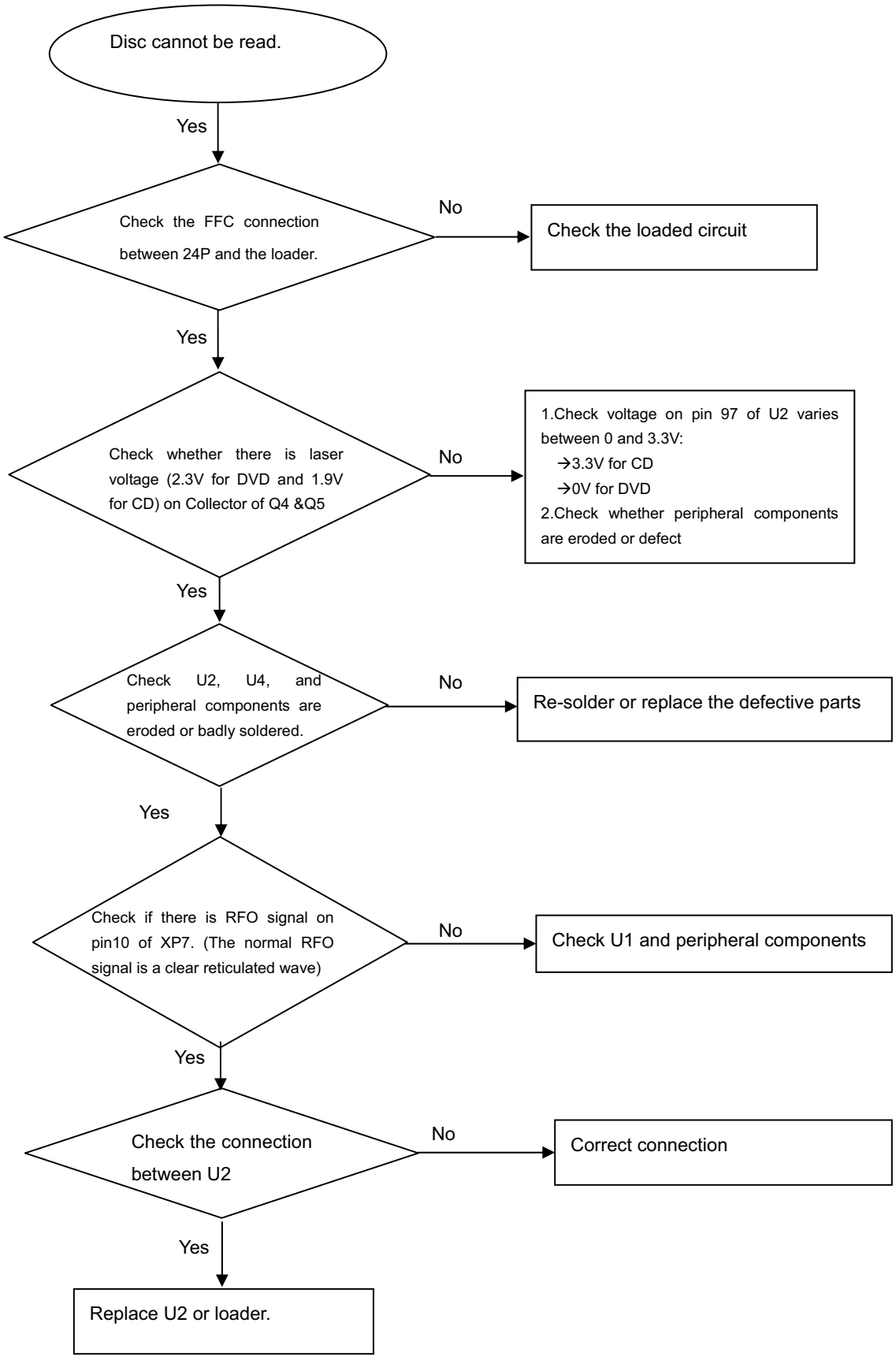
The power can not be on or off


The power can't be on or off
Go
Check the power supply on the power board is normal.
No
Repair the power board
Yes
Check if the CON2 on the power board to XP2 on the decoder board is in good contact.
No
Check/Correct connection
Yes
Check if the xp1 on the decoderboard to XS301 on the frontboard is in good contact
No
Correct the connection
Yes

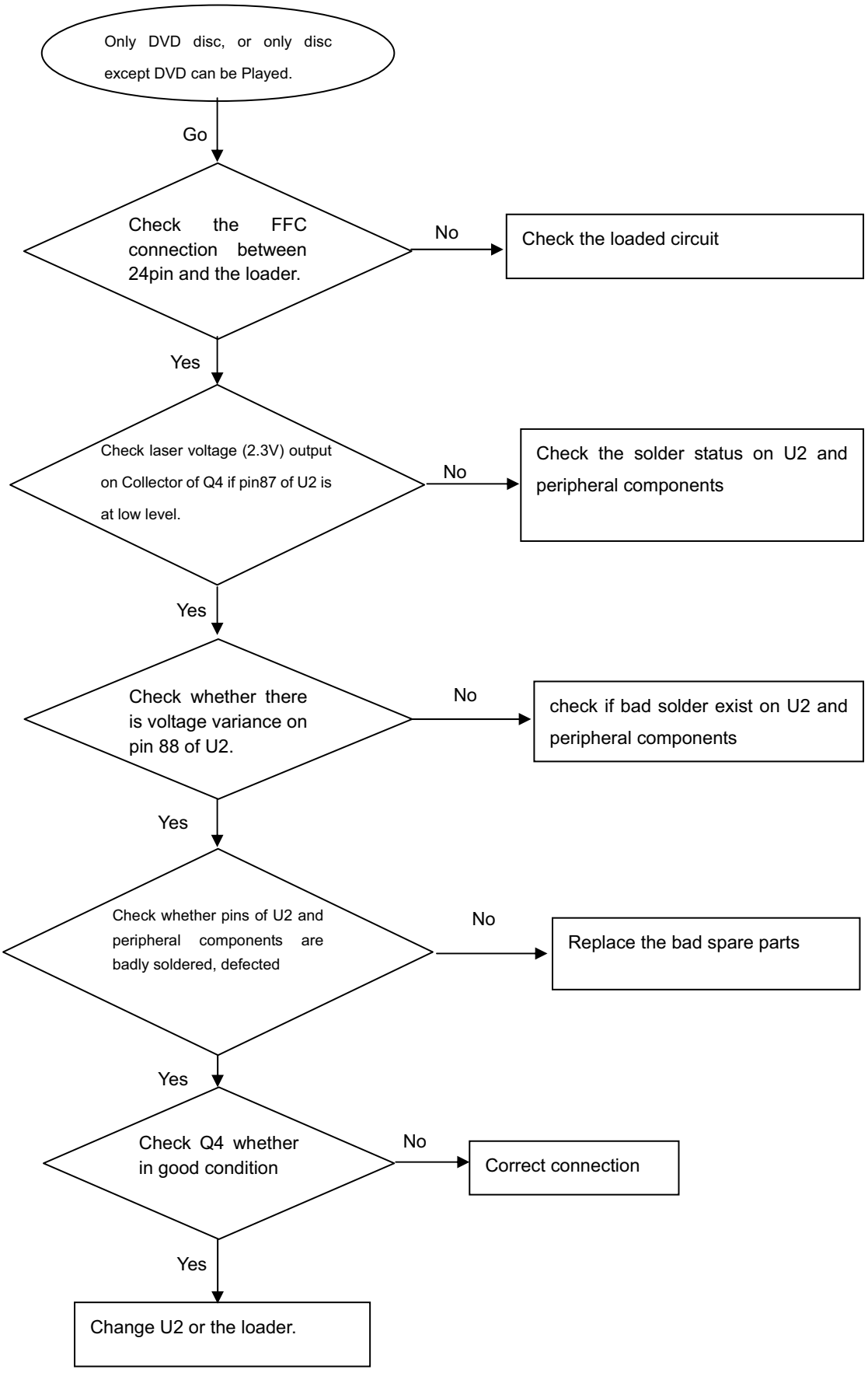
All output voltages on the power board is 0V or deviated.


All output voltages on the power board is 0V or deviated
Yes
Check whether F1 is blown
Yes
Replace F1
No
Check whether there is 300V on C1 or C2.
No
Replace C1&C2 if D1, D2, D3, D4 are normal.
Yes
Check whether 100KHz oscillating signal on Pin6 of U1
No
Check/ replace U1.
U1(PIN 3 - RC waveform)
U1(PIN 8 - Drain waveform)
Yes
Check if +5V, +12V are short.
No
Check whether U1 are eroded.
Yes
Check whether the components in the short-circuit voltage are defected or eroded.

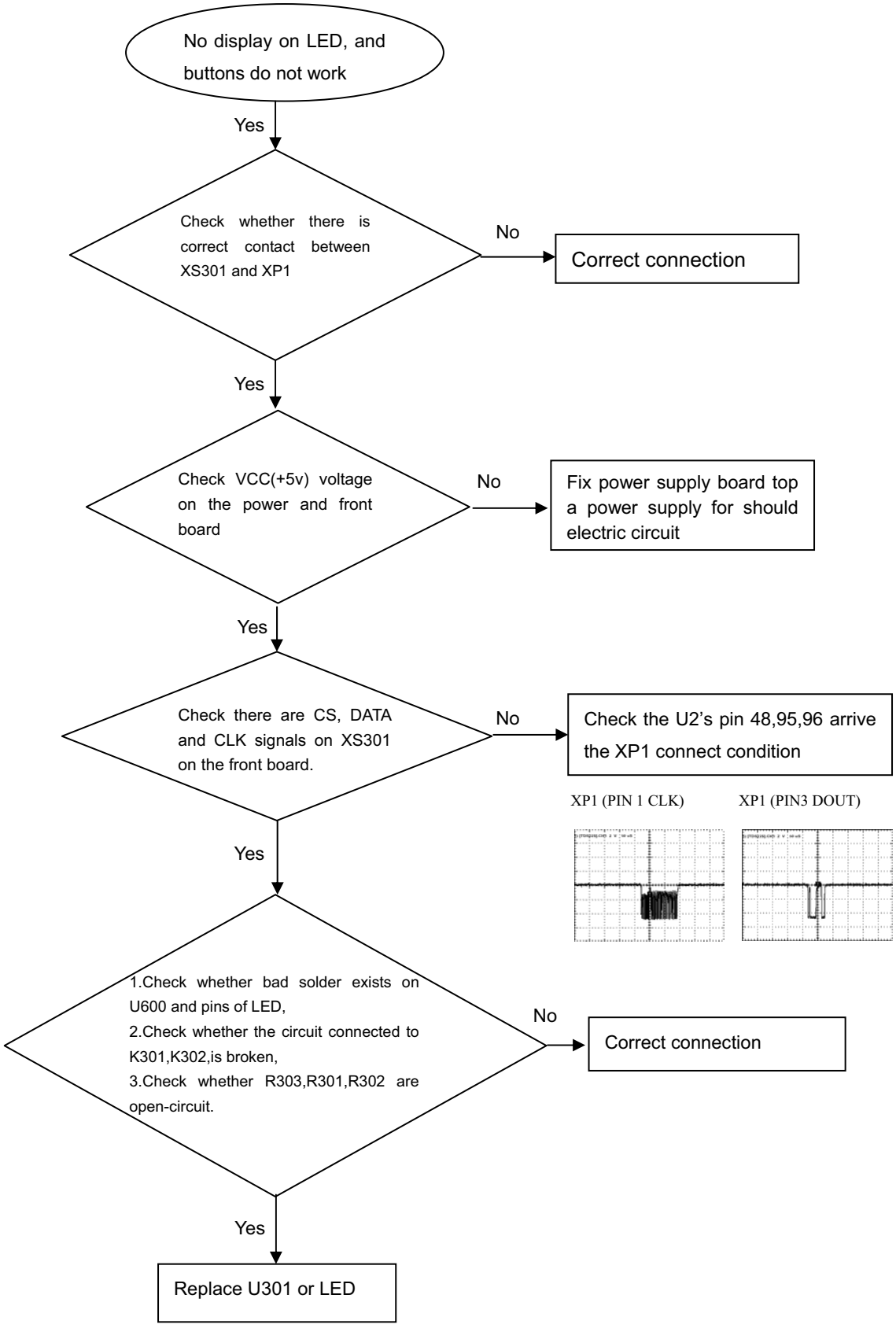
Disc cannot be read.


Disc cannot be read.
Yes
Check the FFC connection between 24P and the loader.
No
Check the loaded circuit
Yes
Check whether there is laser voltage (2.3V for DVD and 1.9V for CD) on Collector of Q4 &Q5
No
1.Check voltage on pin 97 of U2 varies between 0 and 3.3V:
→3.3V for CD
→0V for DVD
2.Check whether peripheral components are eroded or defect
Yes
Check U2, U4, and peripheral components are eroded or badly soldered.
No
Re-solder or replace the defective parts
Yes
Check if there is RFO signal on pin10 of XP7. (The normal RFO signal is a clear reticulated wave)
No
Check U1 and peripheral components
Yes
Check the connection between U2
No
Correct connection
Yes
Replace U2 or loader.

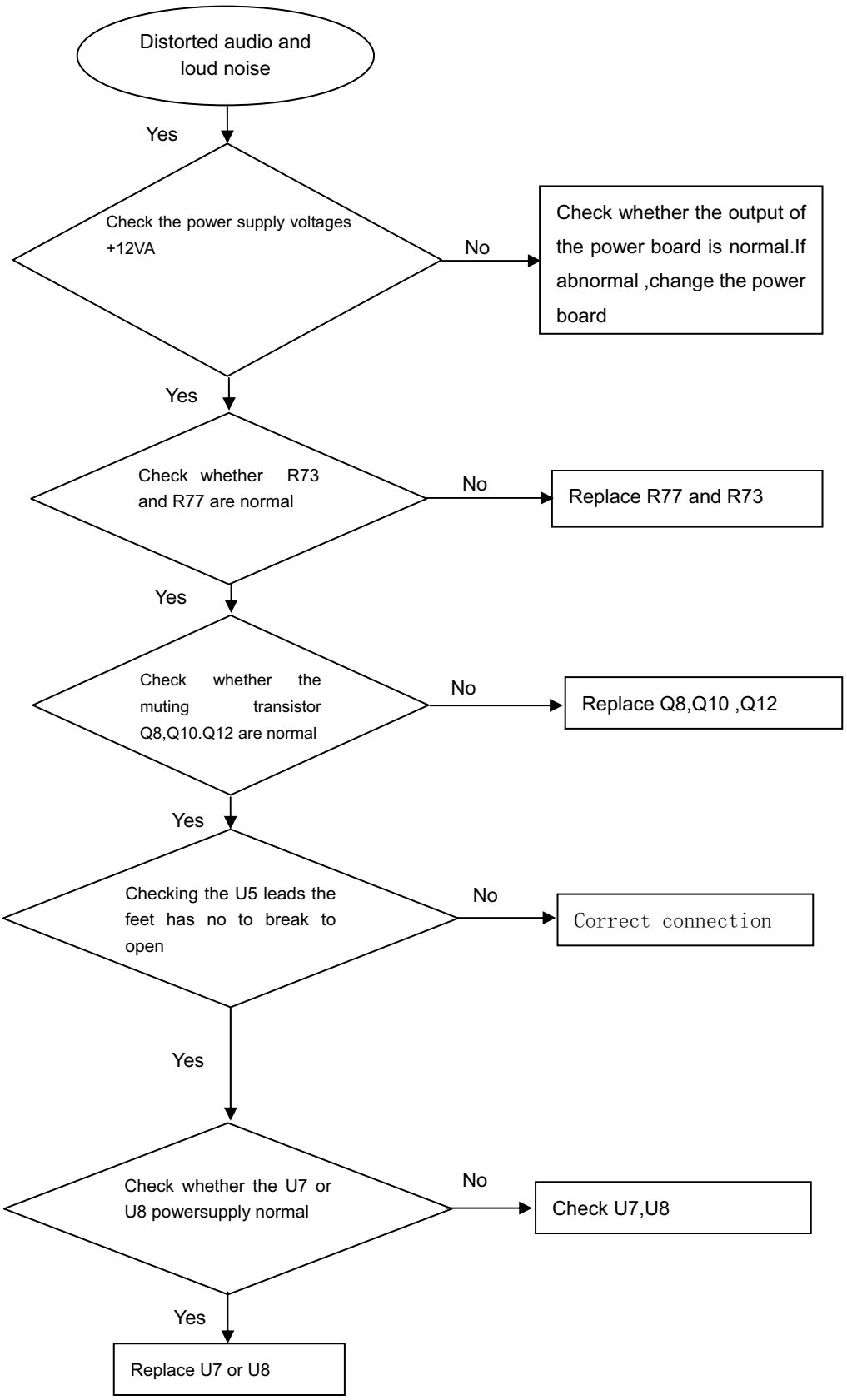
Only DVD disc or only disc except DVD can be played


Only DVD disc, or only disc except DVD can be Played.
Go
Check the FFC connection between 24pin and the loader.
No
Check the loaded circuit
Yes
Check laser voltage (2.3V) output on Collector of Q4 if pin87 of U2 is at low level.
No
Check the solder status on U2 and peripheral components
Yes
Check whether there is voltage variance on pin 88 of U2.
No
check if bad solder exist on U2 and peripheral components
Yes
Check whether pins of U2 and peripheral components are badly soldered, defected
No
Replace the bad spare parts
Yes
Check Q4 whether in good condition
No
Correct connection
Yes
Change U2 or the loader.

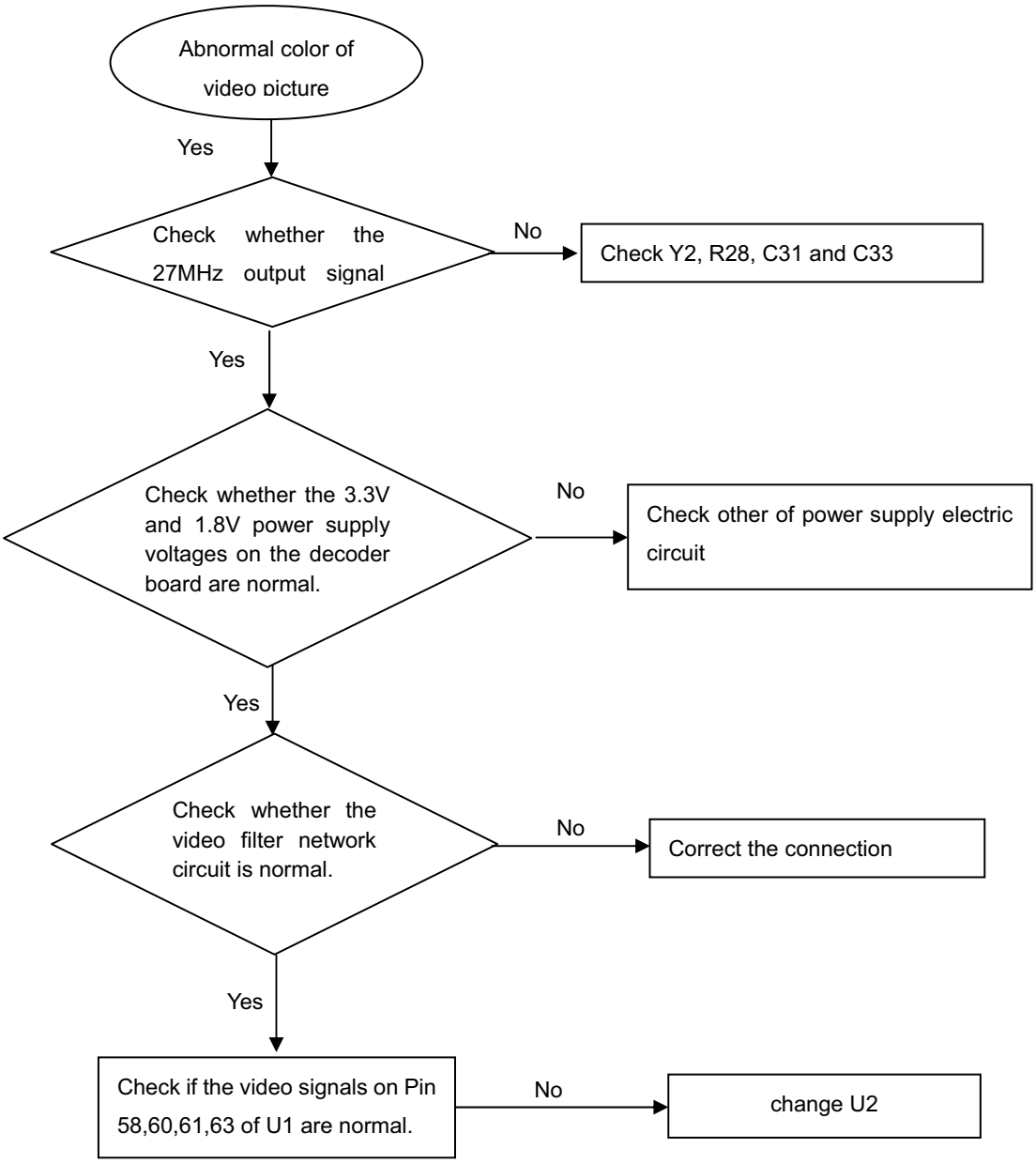
No display on LED, and buttons do not work


No display on LED, and buttons do not work
Yes
Check whether there is correct contact between XS301 and XP1
No
Correct connection
Yes
Check VCC(+5v) voltage on the power and front board
No
Fix power supply board top a power supply for should electric circuit
Yes
Check there are CS, DATA and CLK signals on XS301 on the front board.
No
Check the U2's pin 48,95,96 arrive the XP1 connect condition
XP1 (PIN 1 CLK)
XP1 (PIN3 DOUT)
Yes
1.Check whether bad solder exists on U600 and pins of LED,
2.Check whether the circuit connected to K301,K302,is broken,
3.Check whether R303,R301,R302 are open-circuit.
No
Correct connection
Yes
Replace U301 or LED

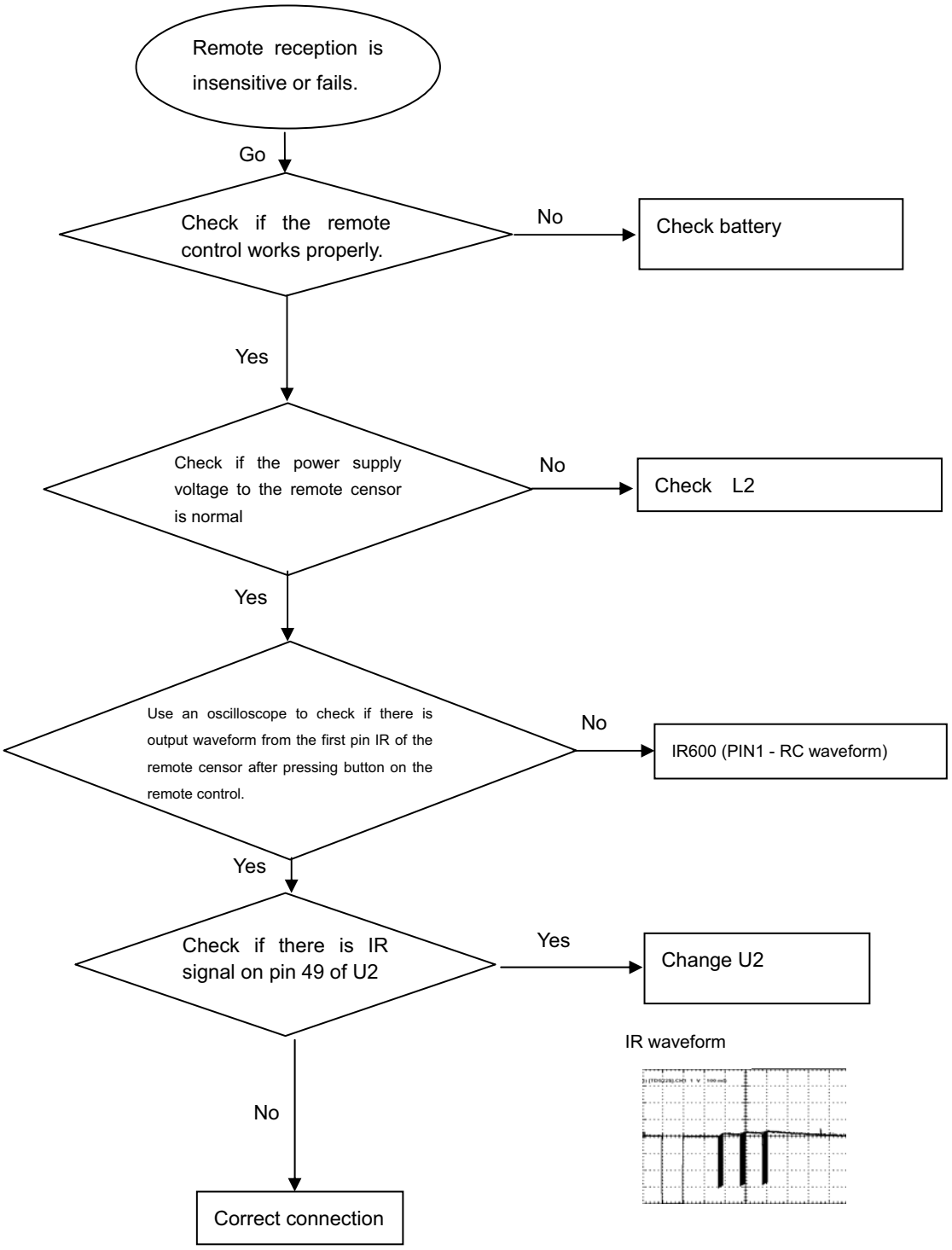
Distorted audio and loud noise



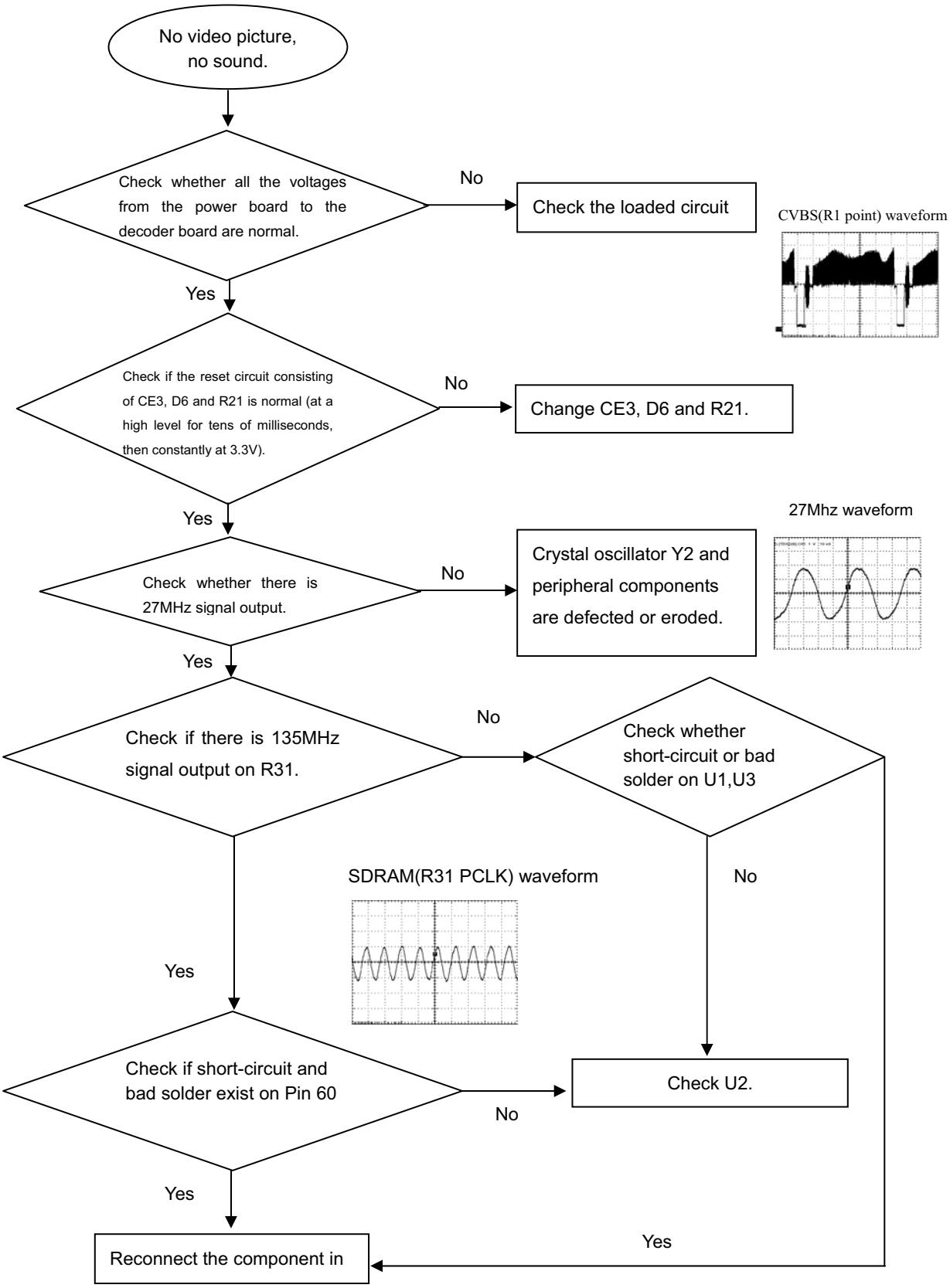
Abnormal color of video picture


Abnormal color of video picture
Yes
Check whether the 27MHz output signal
No
Check Y2, R28, C31 and C33
Yes
Check whether the 3.3V and 1.8V power supply voltages on the decoder board are normal.
No
Check other of power supply electric circuit
Yes
Check whether the video filter network circuit is normal.
No
Correct the connection
Yes
Check if the video signals on Pin 58,60,61,63 of U1 are normal.
No
change U2

Remote reception is insensitive or fails.

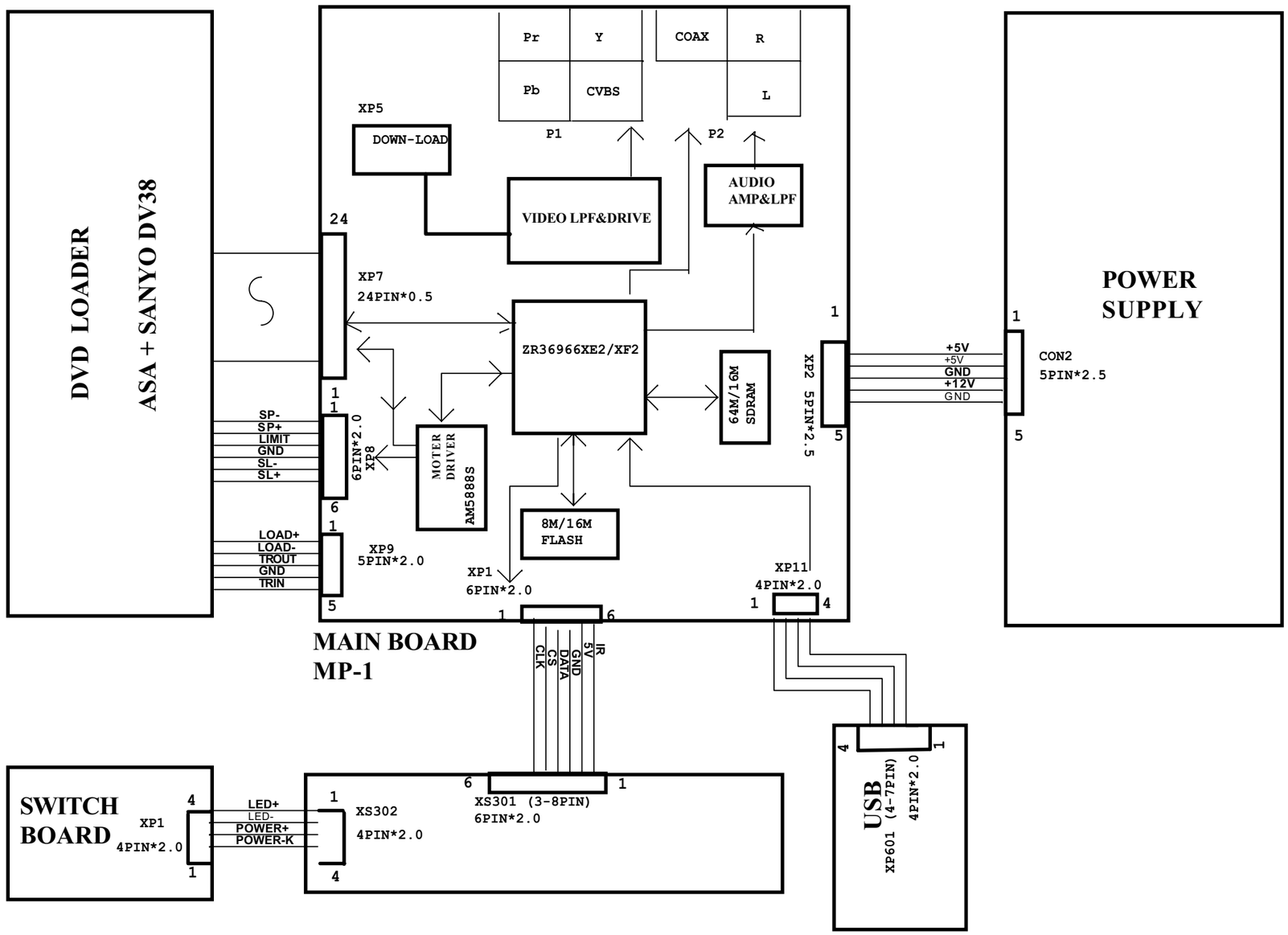

Remote reception is insensitive or fails.
Go
Check if the remote control works properly.
No
Check battery
Yes
Check if the power supply voltage to the remote censor is normal
No
Check L2
Yes
Use an oscilloscope to check if there is output waveform from the first pin IR of the remote censor after pressing button on the remote control.
No
IR600 (PIN1 - RC waveform)
Yes
Check if there is IR signal on pin 49 of U2
Yes
Change U2
IR waveform
No
Correct connection

No video picture, no sound.


No video picture, no sound.
Check whether all the voltages from the power board to the decoder board are normal.
No
Check the loaded circuit
CVBS(R1 point) waveform
Yes
Check if the reset circuit consisting of CE3, D6 and R21 is normal (at a high level for tens of milliseconds, then constantly at 3.3V).
No
Change CE3, D6 and R21.
Yes
27Mhz waveform
Check whether there is 27MHz signal output.
No
Crystal oscillator Y2 and peripheral components are defected or eroded.
Yes
Check if there is 135MHz signal output on R31.
No
Check whether short-circuit or bad solder on U1,U3
SDRAM(R31 PCLK) waveform
No
Yes
Check if short-circuit and bad solder exist on Pin 60
Check U2.
No
Yes
Reconnect the component in
Yes

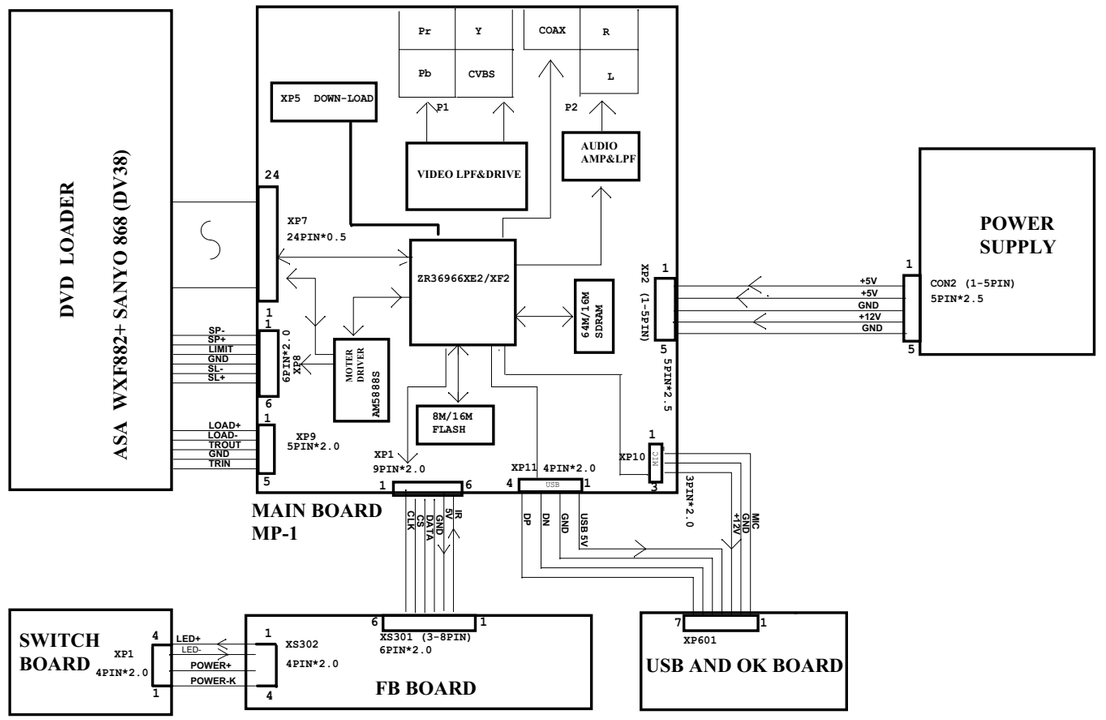
6-1

DVP3320(2CH+USB) WIRING DIAGRAM



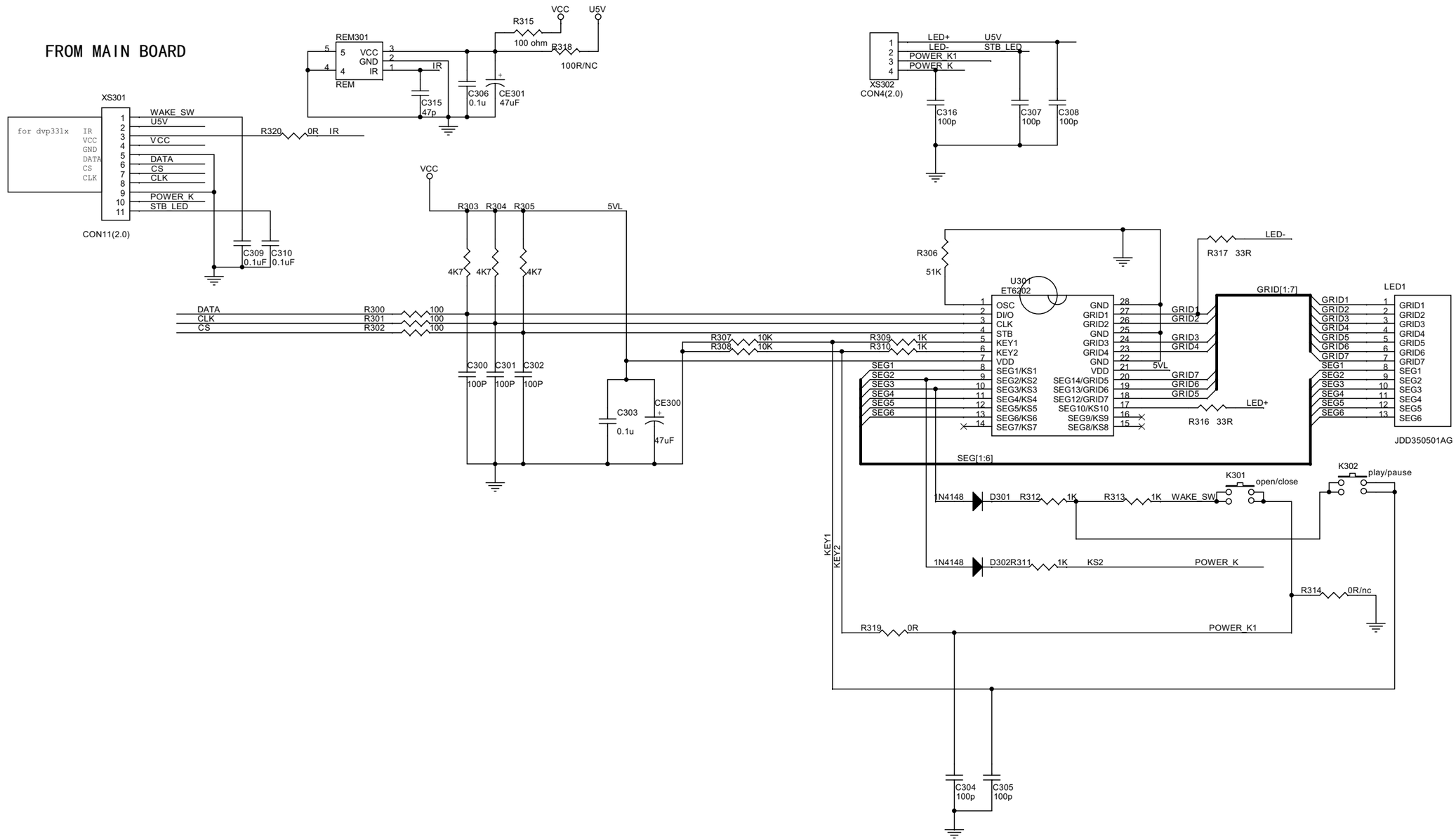
6-1

DVP3320 (2CH+O +USB) WIRING DIAGRAM



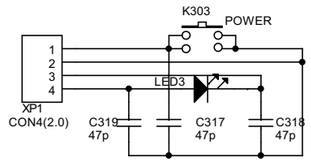
7-1

Front Board Electric Diagram:



7-2

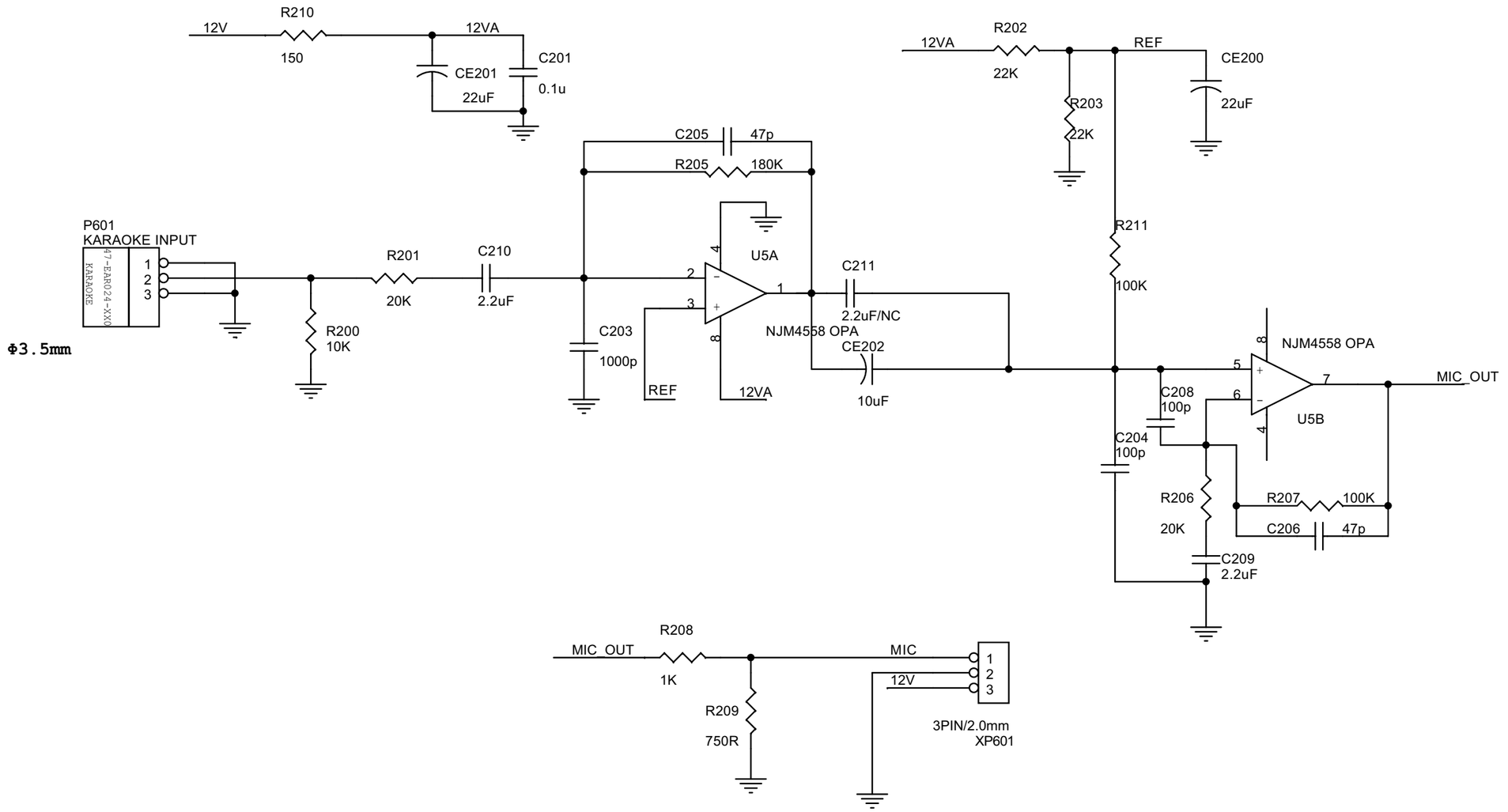
Switch Board Electric Diagram:



SWITCH BOARD

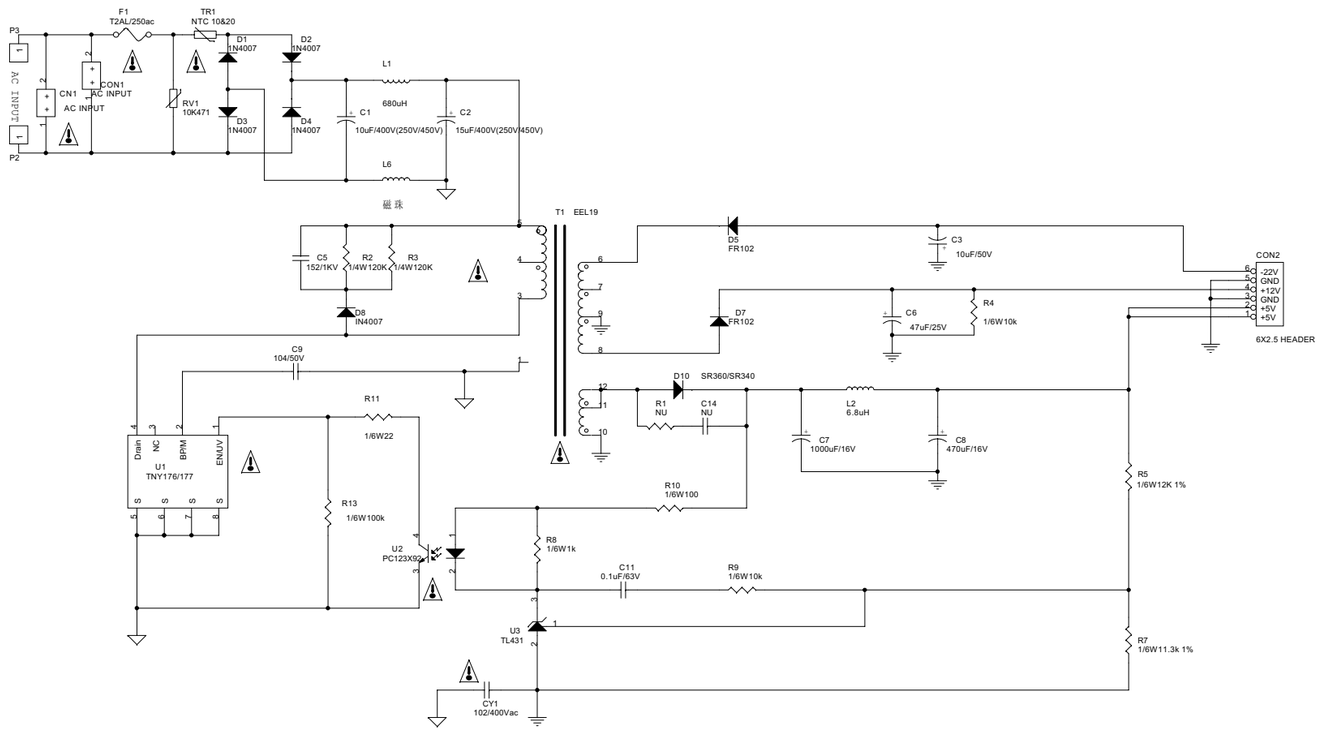
7-3

OK Board Electric Diagram:



7-4

Power Board Electric Diagram:



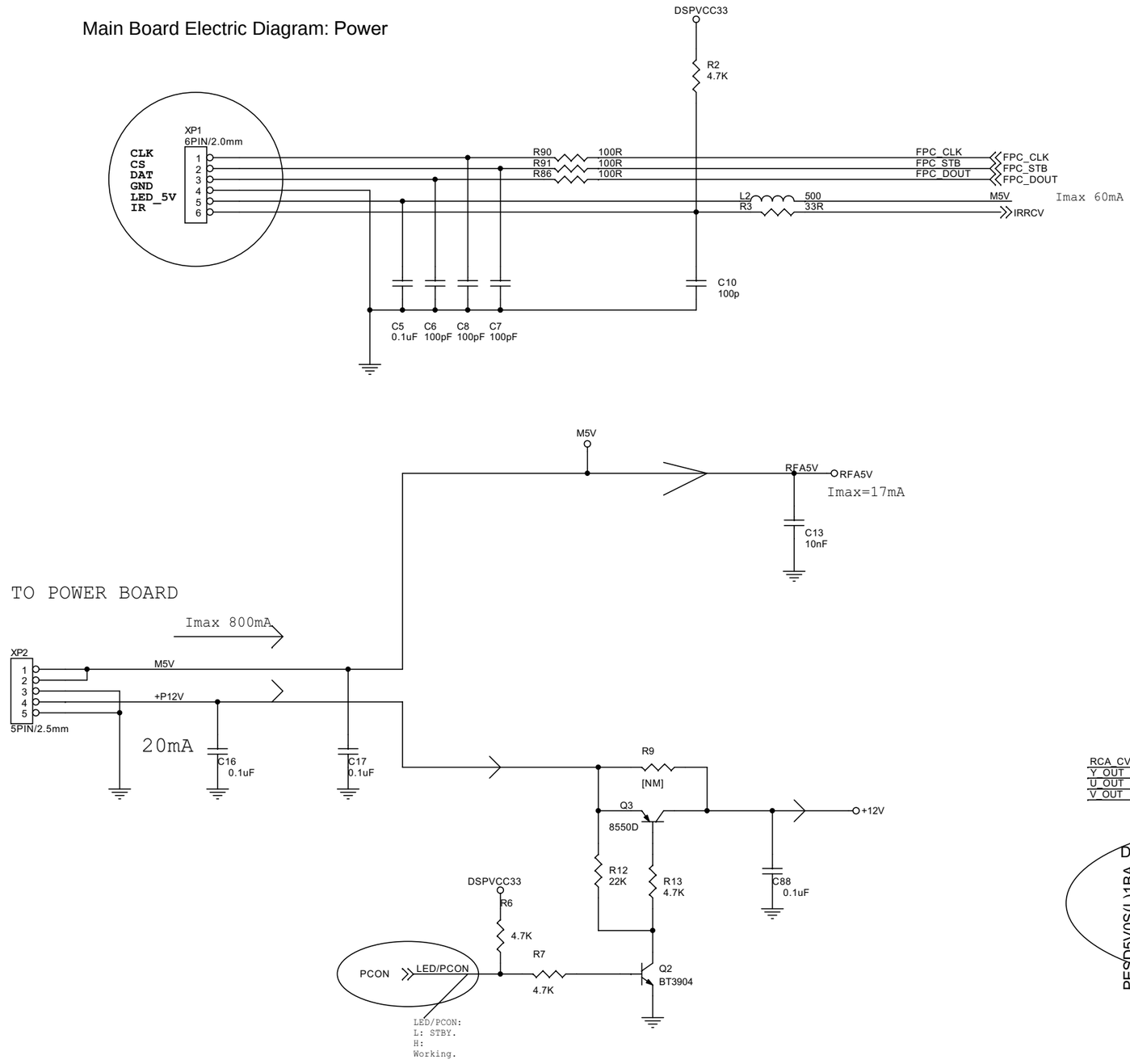
*** CAUTION :**

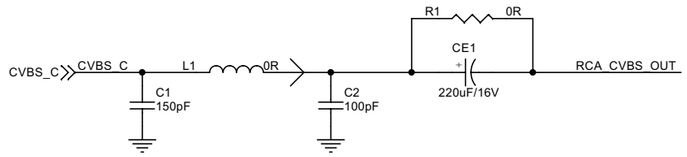
THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.

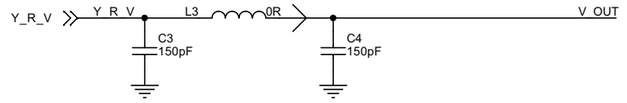
PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

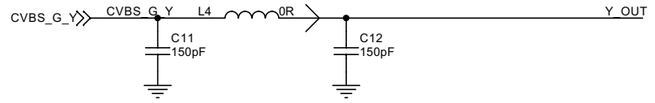
7-5

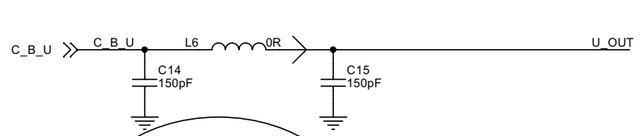
Main Board Electric Diagram: Power

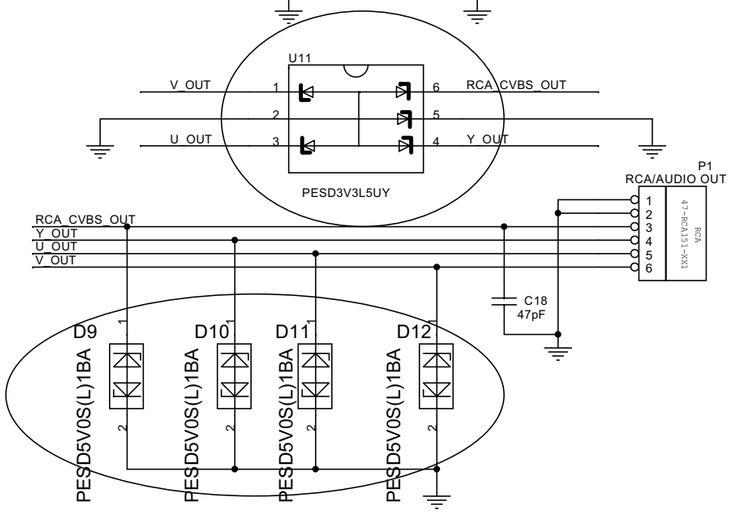








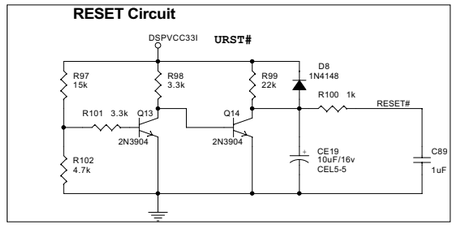


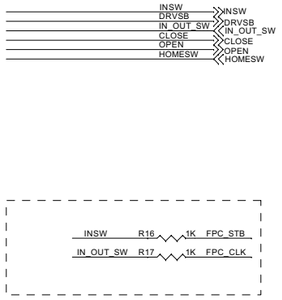


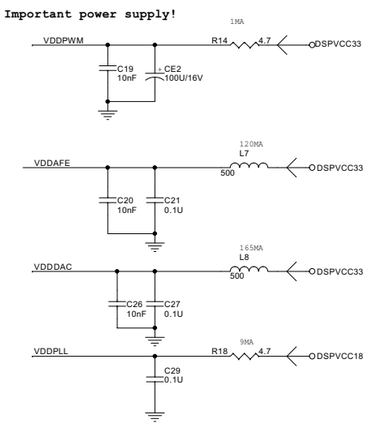
7-6

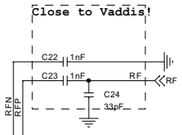
Main Board Electric Diagram: Vaddis_SDRAM_Flash

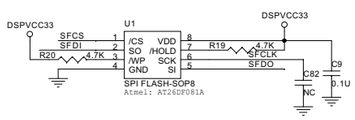
RESET Circuit

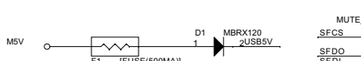


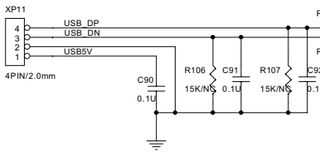


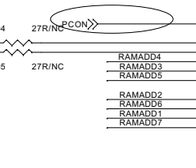


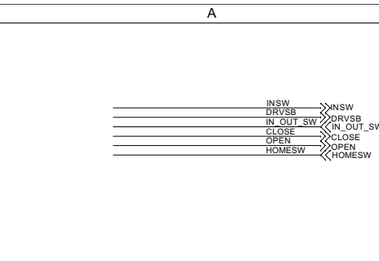


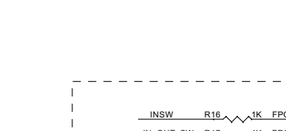


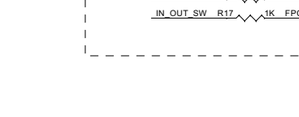


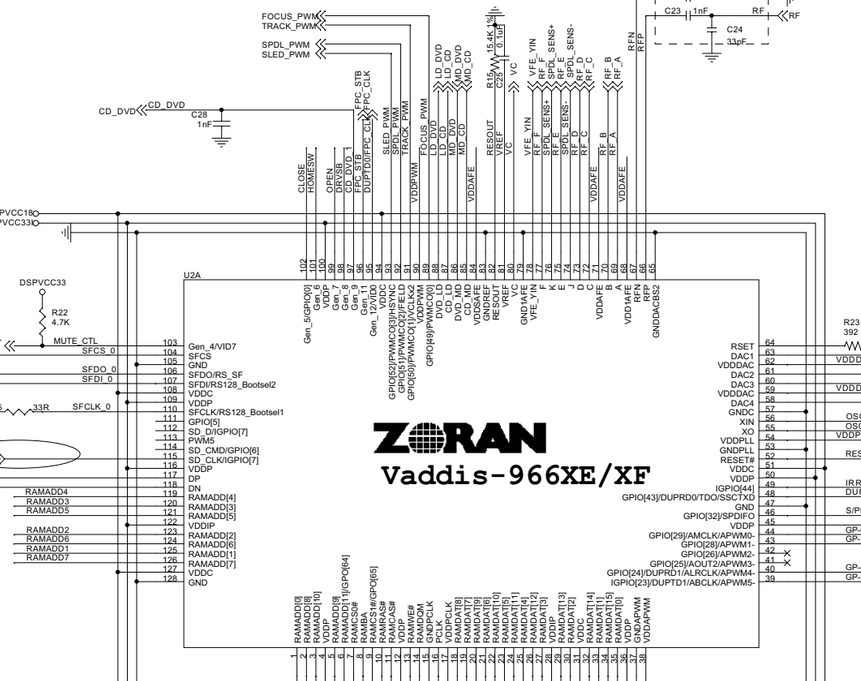


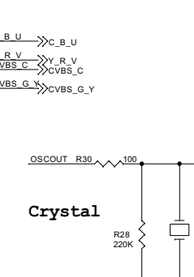


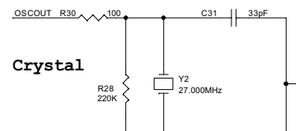


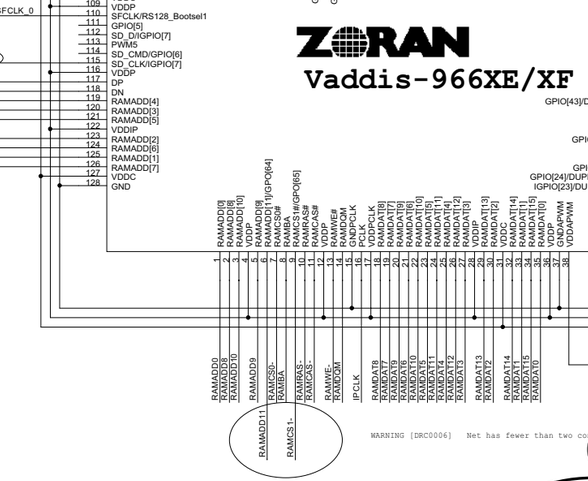


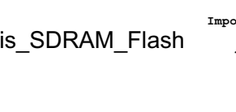




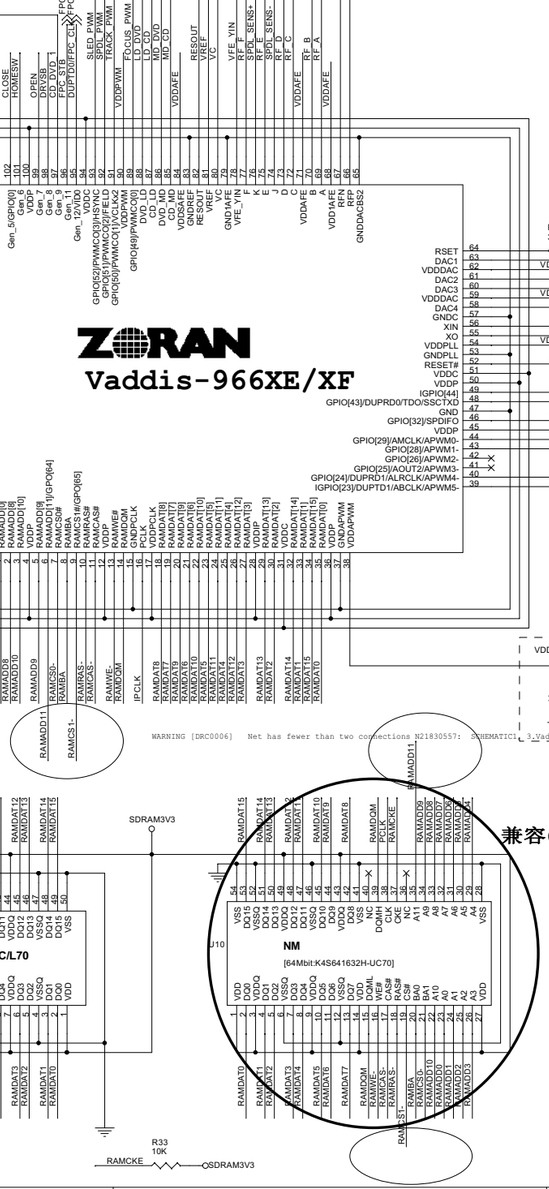


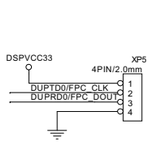


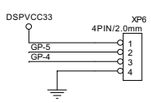


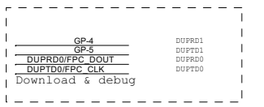


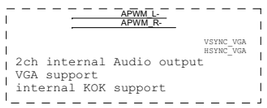
WARNING [DRC0006] Net has fewer than two connections N21830557: SCHEMATIC1, 3,Vaddis_SDRAM_Flash (165.10, 185.42)

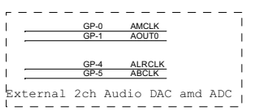






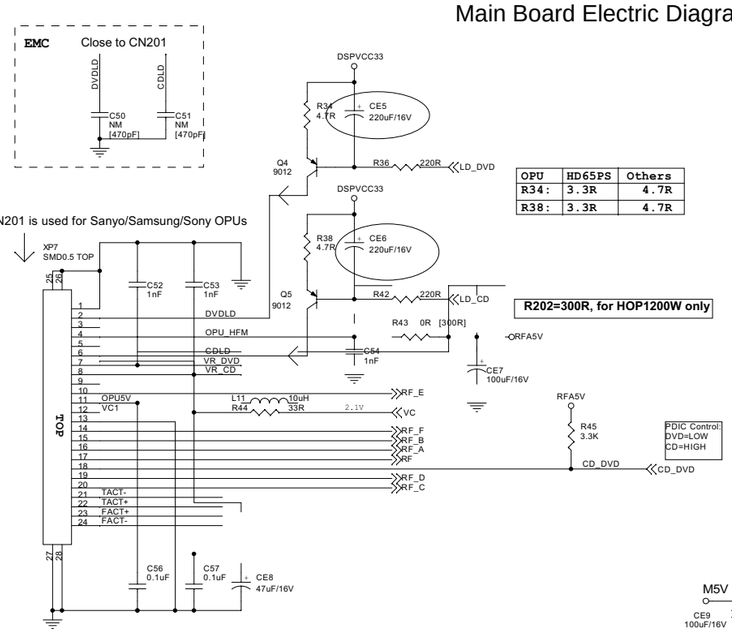






7-7

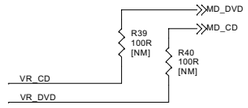
Main Board Electric Diagram: FE_Regulator

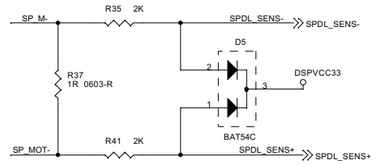


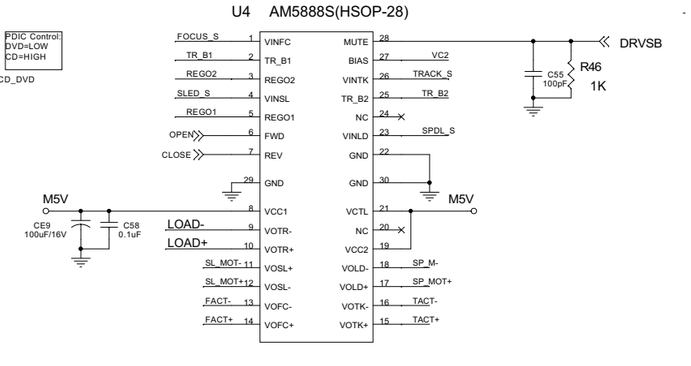
OPU	HD65PS	Others
R34:	3.3R	4.7R
R38:	3.3R	4.7R

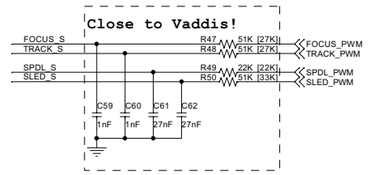
OPU	R39	R40
Sony310	100R	100R
DL3	0	0
IAT510	100R	100R
TOP1100S	10R	10R
SEMCO-SP1	0	0
MITSM820W	91R	91R
HD8(DV23)	0	0
HOP1200W	NM	NM
HD65/HD62	0	0
502W	91R	91R
Arima681	NM	NM

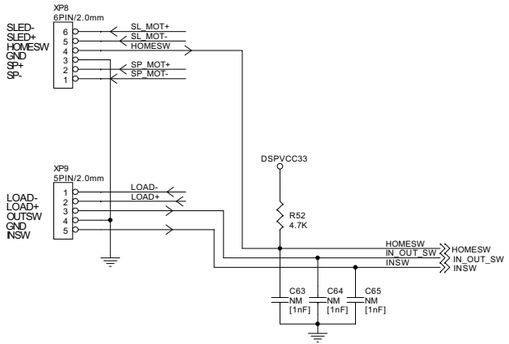
OPU	R270	R283
HOP1200W	100R	100R
Arima681	100R	100R
Others	NM	NM

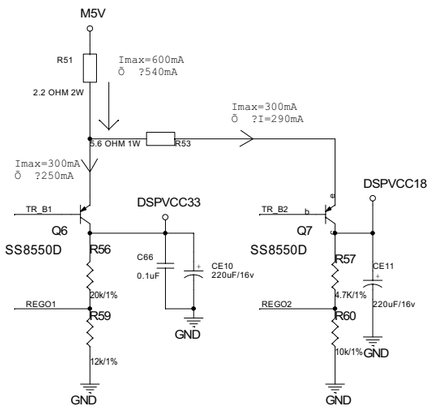


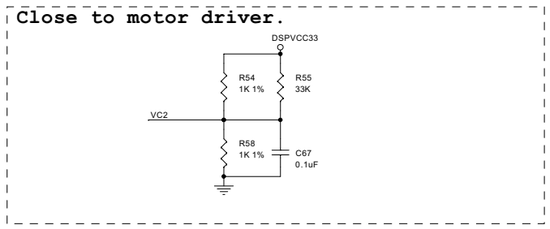






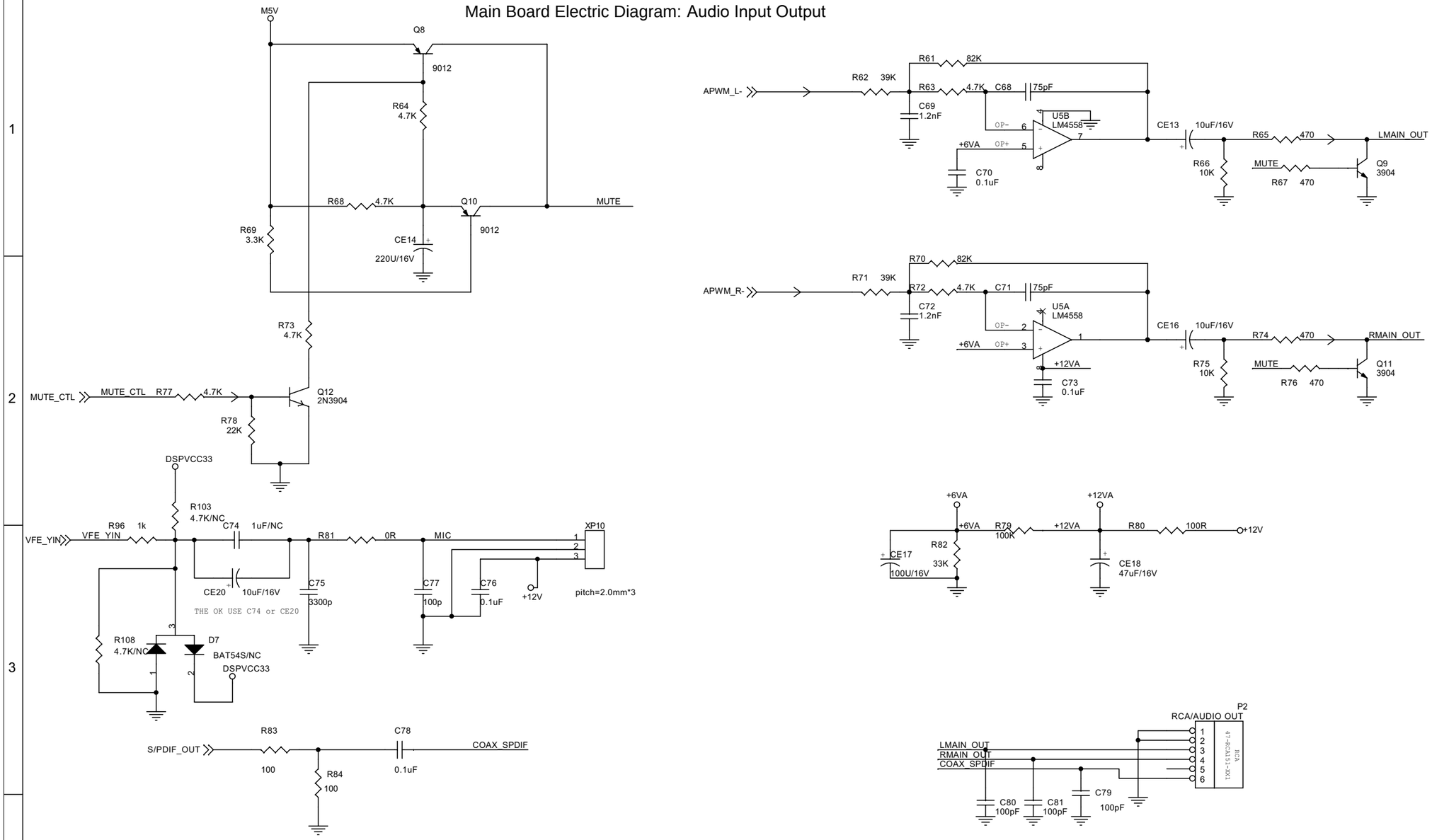






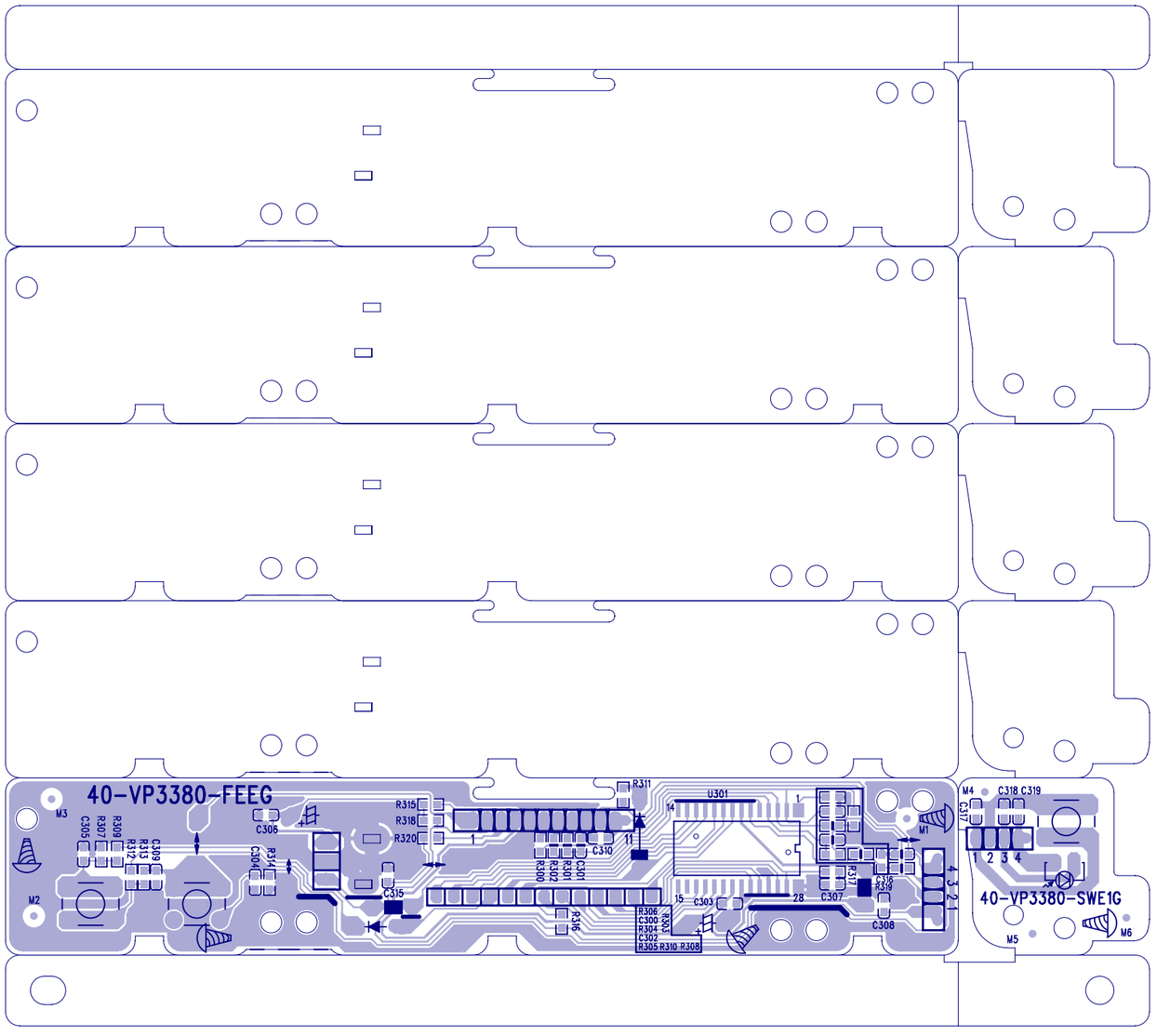
7-8

Main Board Electric Diagram: Audio Input Output

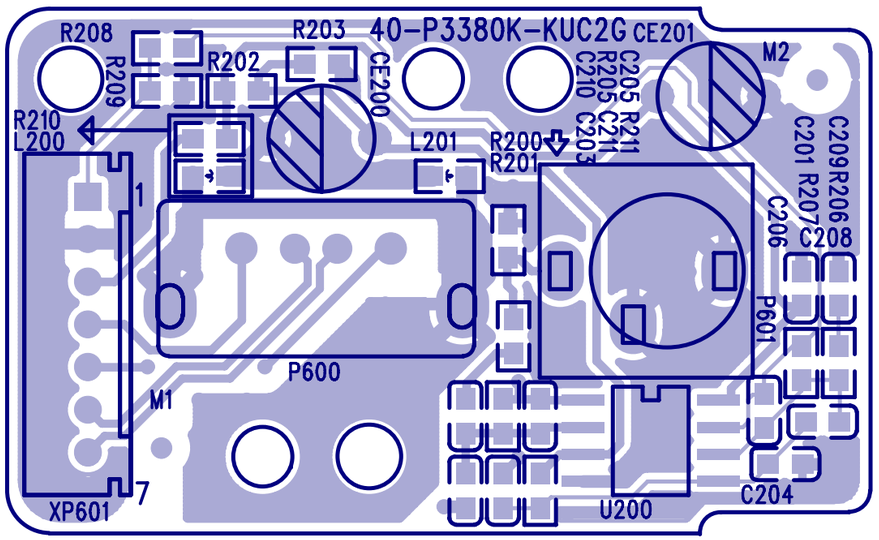


7-9

Front Board & Switch Board Print-layout (Bottom side):

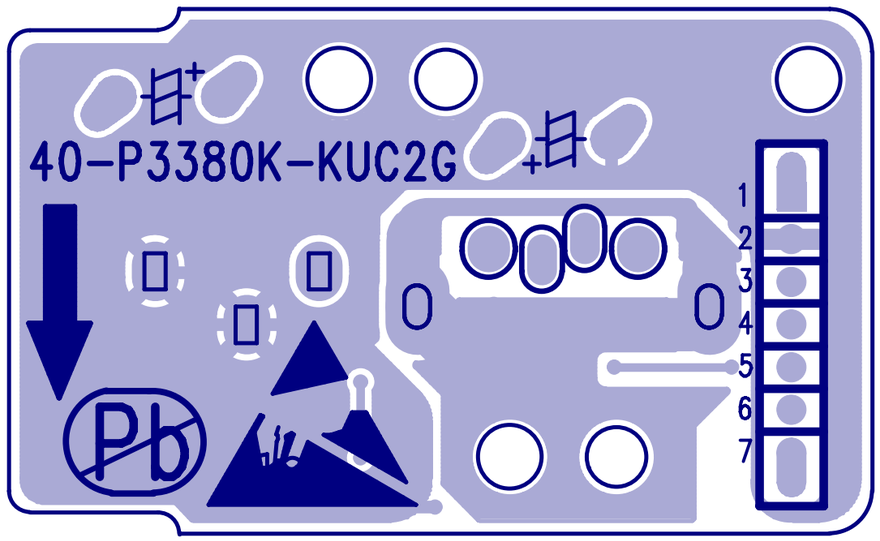


OK Board Print-layout (Top side):



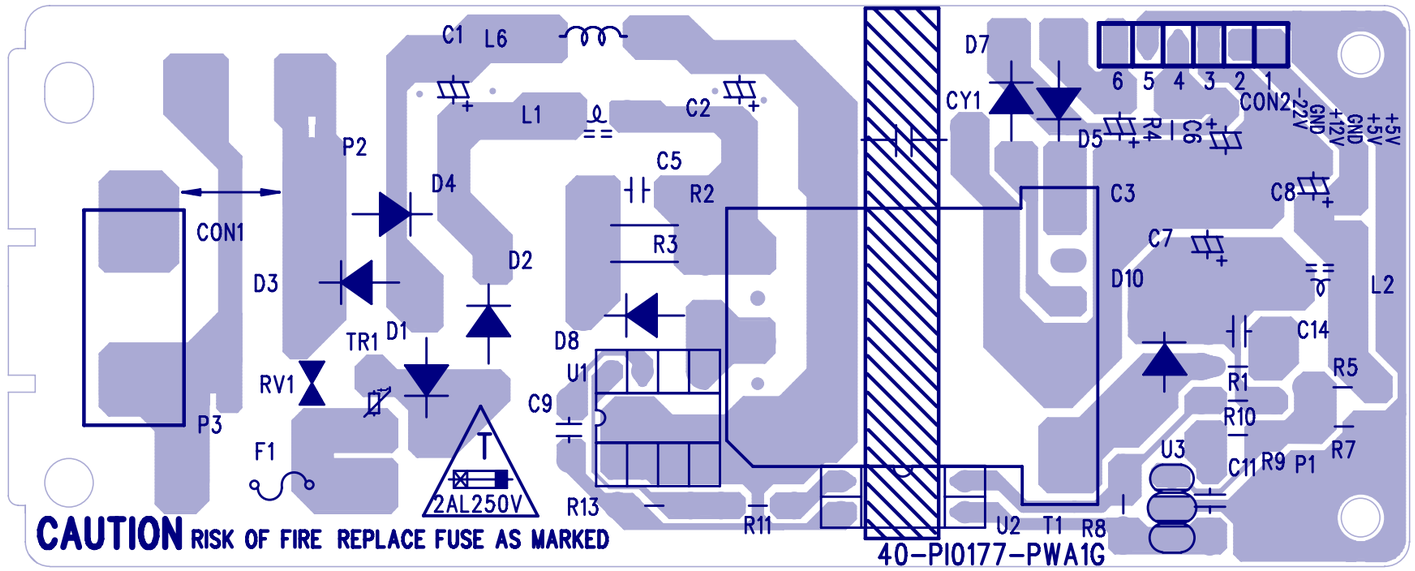
7-10

OK Board Print-layout (Bottom side):



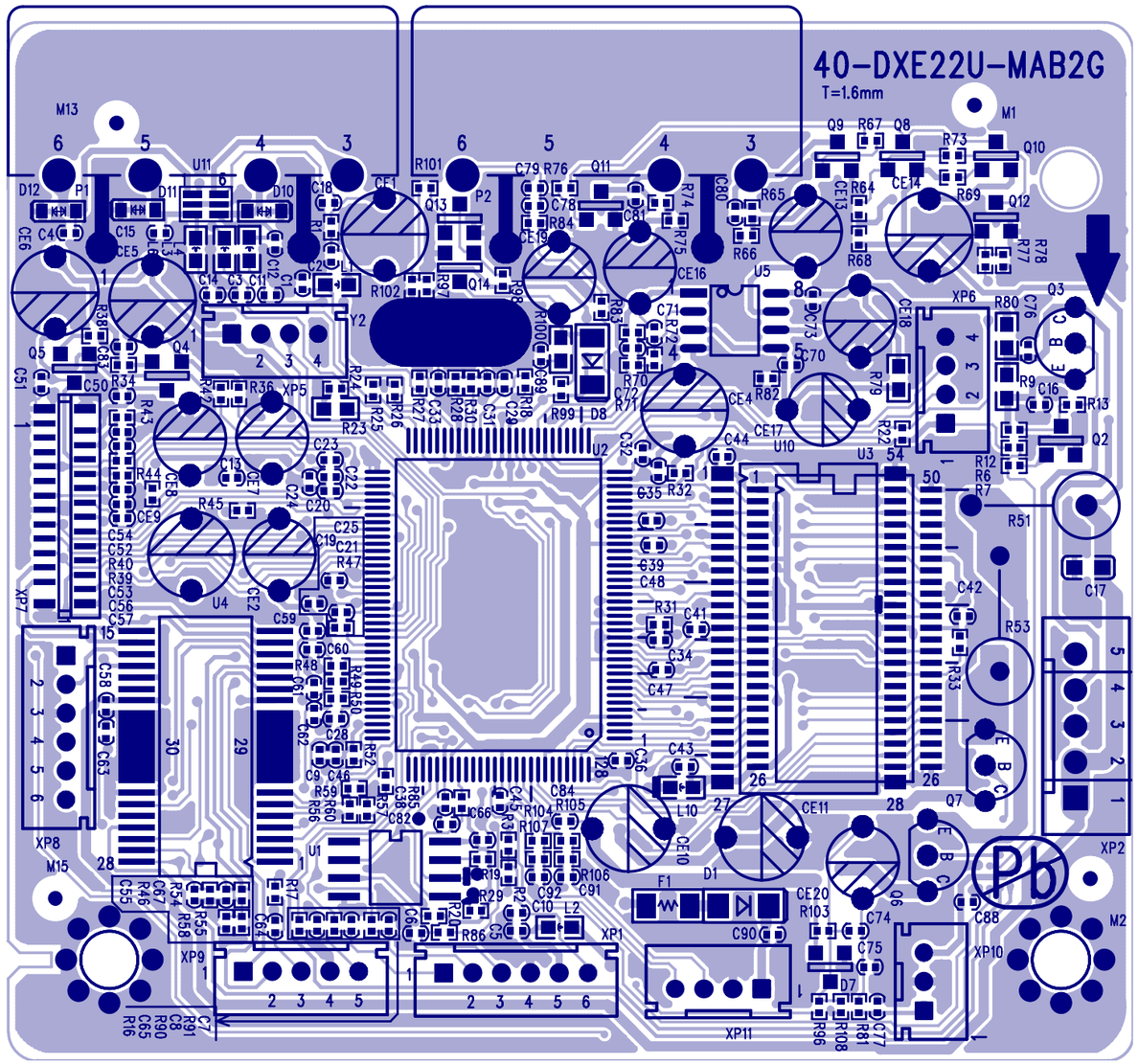
7-11

Power Board Print-layout (Bottom side):



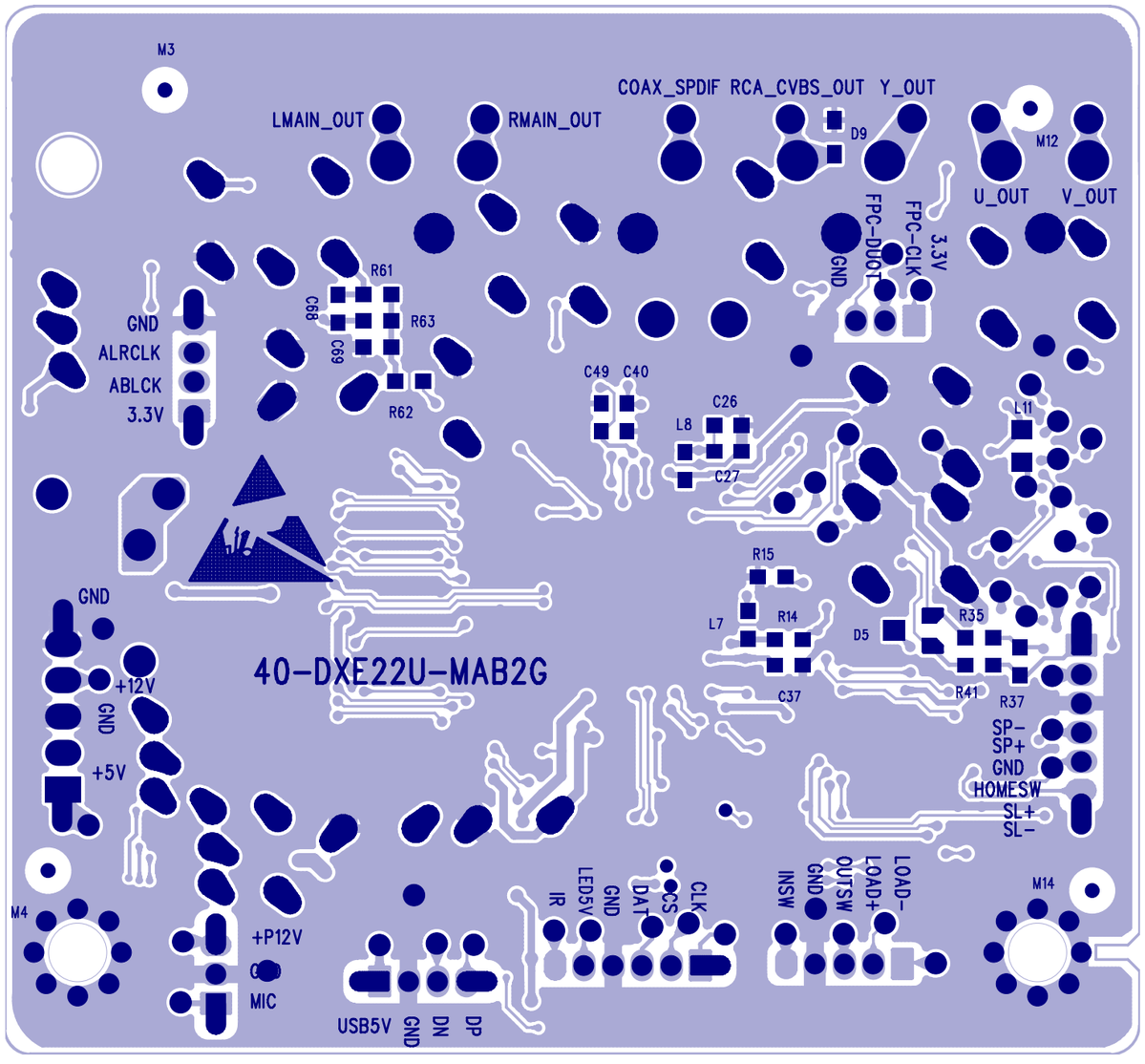
7-12

Main Board Print-layout (Top side):

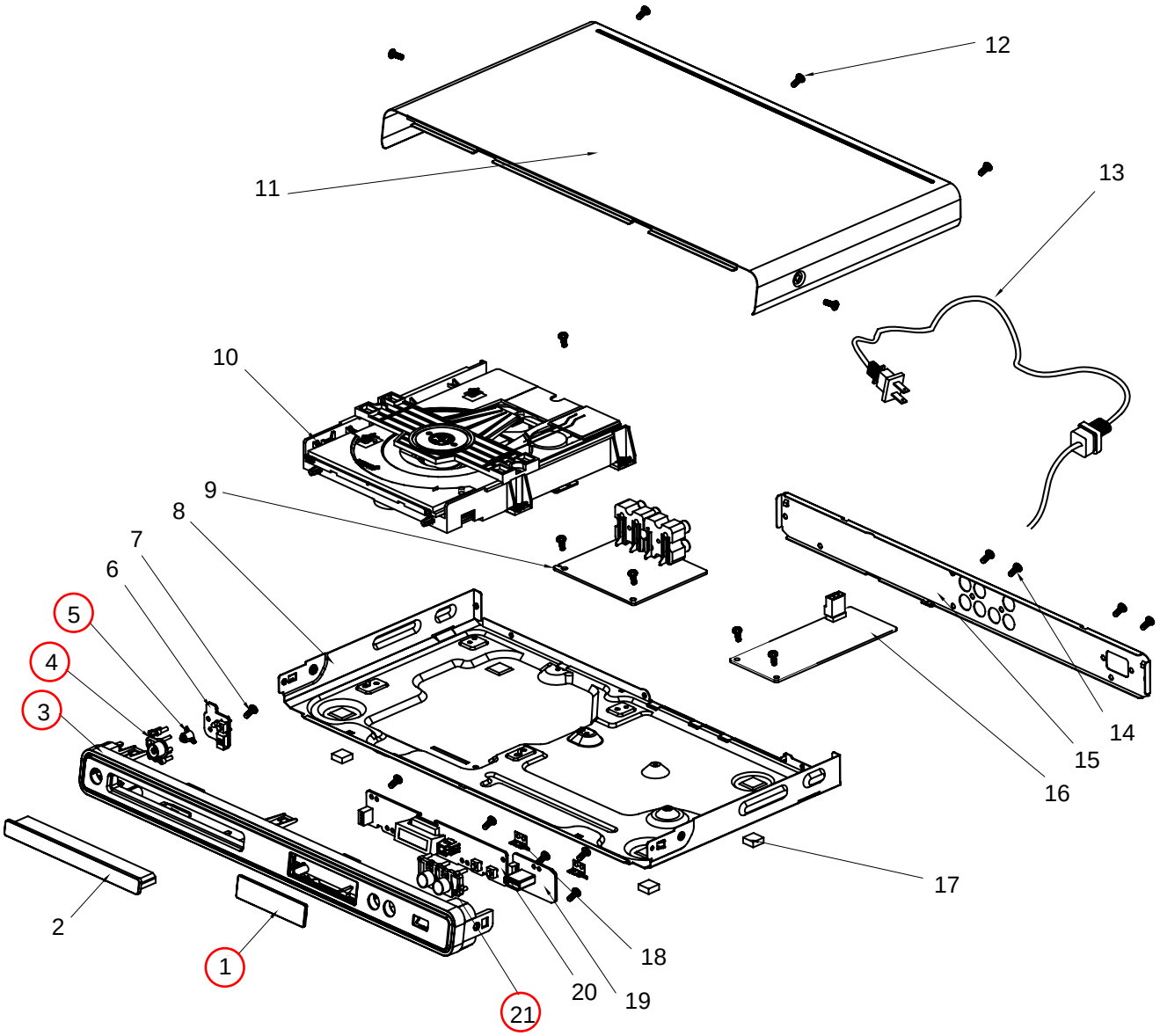


7-13

Main Board Print-layout (Bottom side):

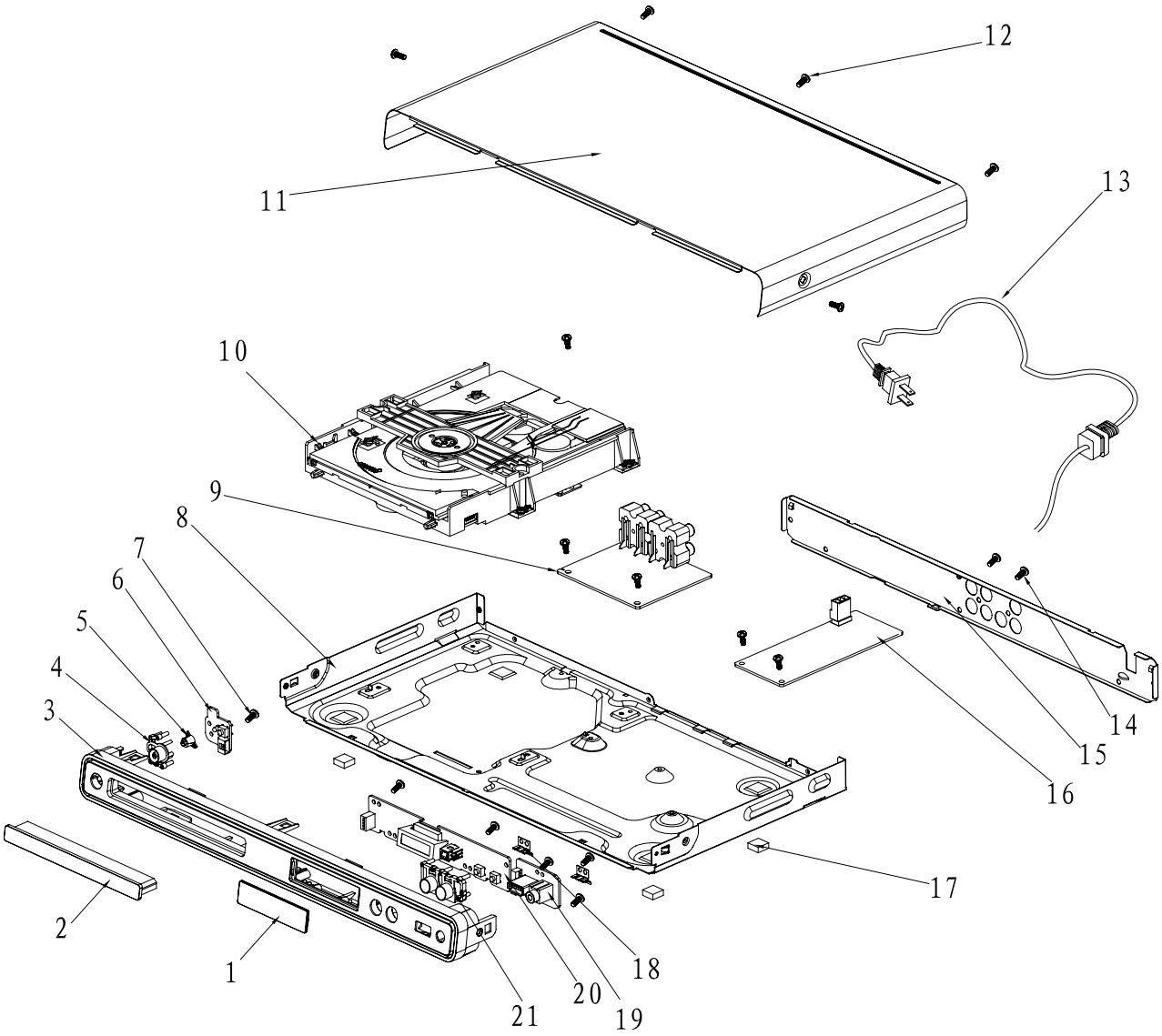


Exploded View for DVP3320/55:



It's a general mechanical view for DVP3320/55, pls refer to the model set for detailed information.
Assy 1 component includes:1.3.4.5.21

Exploded view for DVP3320K(X)/78:



It's a general mechanical view for DVP3320K(X)/78, pls refer to the model set for detailed information.
Assy 1 component includes:1.3.4.5.21

DVP3320/55, DVP3320KX/78 SERVICE PARTLIST

ELECTRICAL PARTLIST

No	12NC No.	Description	Q'ty
9	996510027097	ASSY-MAIN BOARD	**1**
⚠ 16	996510027098	ASSY-POWER BOARD	**1**
20	996510020922	ASSY-FB BOARD	**1**
6	996510020934	ASSY-SWITCH BOARD	**1**
19	996510027095	ASSY-KU BOARD	**1**
10	996510029491	LOADER	**1**
OPU	996510021449	SANYO LOADER (DV38)	1

ASSY-MAIN BD COMPONENT PARTLIST

No	12NC No.	Description	Q'ty
D1	996510022393	SMD. DIODE MBRX140	1
D10	996510020926	IC PESD5V0S1BA	1
D11	996510020926	IC PESD5V0S1BA	1
D12	996510020926	IC PESD5V0S1BA	1
D5	996510009668	BAT54C	1
D8	996510009667	SMD. SWITCHING DIODE LL4148	1
D9	996510020926	IC PESD5V0S1BA	1
Q10	996510009670	TRANSISTOR SMT 3CG9012M	1
Q11	996510009669	SMD.TRANSISTOR MMBT3904LT1 NPN	1
Q12	996510009669	SMD.TRANSISTOR MMBT3904LT1 NPN	1
Q13	996510009669	SMD.TRANSISTOR MMBT3904LT1 NPN	**1**
Q14	996510009669	SMD.TRANSISTOR MMBT3904LT1 NPN	1
Q2	996510009669	SMD.TRANSISTOR MMBT3904LT1 NPN	1
Q3	996510009671	PNP TRANSISTOR	1
Q4	996510021453	SMD. TRANSISTOR MMBT8550CLT1	1
Q5	996510021453	SMD. TRANSISTOR MMBT8550CLT1	1
Q6	996510009671	PNP TRANSISTOR	1
Q7	996510009671	PNP TRANSISTOR	1
Q8	996510009670	TRANSISTOR SMT 3CG9012M	1
Q9	996510009669	SMD.TRANSISTOR MMBT3904LT1 NPN	1
U1	996510020916	16M SPI FLASH EON	1
U10	996510021455	64M SDRAM -6NS TSP54	1
U2	996510021459	IC ZR36966PQCG-XE2	1
U4	996510011055	IC CD5888CB	1
U5	996510010924	DUAL OPERATIONAL AMPLIFIER	1
Y2	996510009675	27MCL20PF	1

ASSY-PW BD COMPONENT PARTLIST

No	12NC No.	Description	Q'ty
D1	996510011047	DIODE IN4007	1
D10	996500027866	DIODE SR360 3A/60V	1
D2	996510011047	DIODE IN4007	1
D3	996510011047	DIODE IN4007	1
D4	996510011047	DIODE IN4007	1
D7	996500014043	DIODE FR102 (FAST RECOVERY)	1
D8	996510011047	DIODE IN4007	1
L1	996510009942	COIL WIDTH	1
L2	996500032509	COIL SL0811-6R8K2R4	1
T1	996510010954	TRANSFORMER CONV	1
U1	996510010953	IC TNY176PN	1
U2	996500027867	PHOTOCOUPLER PS2561L1-1-V(WF)	1
U3	996500014609	IC AM431LP	1

ASSY-FB BD COMPONENT PARTLIST

No	12NC No.	Description	Q'ty
LED1	996510020917	2808AG	1
REM301	996510020925	HM338-12 RECEIVER MOD H 12MM	1
U301	996510009665	IC ET6202 SOP-2	1

MECHANICAL PARTLIST

No	12NC No.	Description	Q'ty
11	996510022399	TOP COVER	1
⚠ 13A	996510020885	POWER SOCKET TRANSITION	1
⚠ 13B	996510001175	POWER CORD	1
15	996510022429	BACK PANEL /55	1
15	996510027139	BACK PANEL KX/78	1
17	996510006463	PAD	4
2	996510022395	FRONT DOOR	1
⚠ 8	996510020928	BOTTOM PLATE	1
AVCABLE	996510001106	VIDEO CABLE 1500MM	1
Assy1	996510022396	ASSY - FRONT DOOR	1
CON2	996510010962	5PIN CBL T C3-5Y/SCN-5P L 90MM	1
RC	996510020682	REMOTE CONTROL	1
XP11	996510022394	4PIN CABLE WITH SHIELD L 180MM	**1**
XP8	996510021448	6PIN HS	**1**
XS301	996510012698	HS 6P PH-6Y/ C20-6Y 150MM	1

SCREWS LIST:

No	12NC No.	Description	Q'ty
7	—	S/T SCREW B 2.6 X 8 BF	6
12	—	S/T SCREW B3 X 6 BF	9
14	—	S/T SCREW B 3 X 7 BF	5

REVISION LIST

Version 1.0

* Initial release for DVP3320/55

Version 1.1

* Adding DVP3320K(X)/78